# Structure Search

Epps-Ford March 18, 2004

```
=> d que 16
L1                STR
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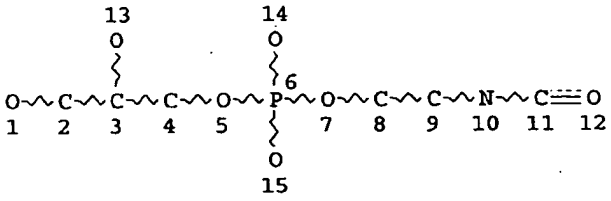

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CONNECT IS E2  RC AT   4
CONNECT IS E2  RC AT   8
CONNECT IS E2  RC AT   9
CONNECT IS E2  RC AT  10
CONNECT IS E3  RC AT  11
CONNECT IS E2  RC AT  13
CONNECT IS E1  RC AT  14
CONNECT IS E1  RC AT  15
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  15

STEREO ATTRIBUTES: NONE
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L4                STR
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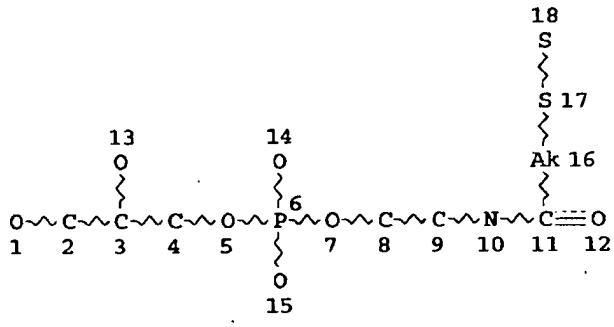

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NODE ATTRIBUTES:
CONNECT IS E2  RC AT   1
CONNECT IS E2  RC AT   2
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CONNECT IS E2  RC AT   9
CONNECT IS E2  RC AT  10
CONNECT IS E3  RC AT  11
CONNECT IS E2  RC AT  13
CONNECT IS E1  RC AT  14
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CONNECT IS E1 RC AT 15
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE
L5 79 SEA FILE=REGISTRY SUB=L3 SSS FUL L4
L6 58 SEA FILE=HCAPLUS ABB=ON PLU=ON L5

=> d l6 ibib ab hitstr 1-58

L6 ANSWER 1 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2004:162290 HCAPLUS
TITLE: Biobased microbattery
INVENTOR(S): Stanish, Ivan; Singh, Alok
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 15 pp., Cont.-in-part of U.S. Ser. No. 939,288.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| US 2004038128 | A1 | 20040226 | US 2003-644558 | 20030819 |
| US 2003039885 | A1 | 20030227 | US 2001-939288 | 20010824 |
| US 6680142 | B2 | 20040120 | | |

PRIORITY APPLN. INFO.: US 2001-939288 A2 20010824

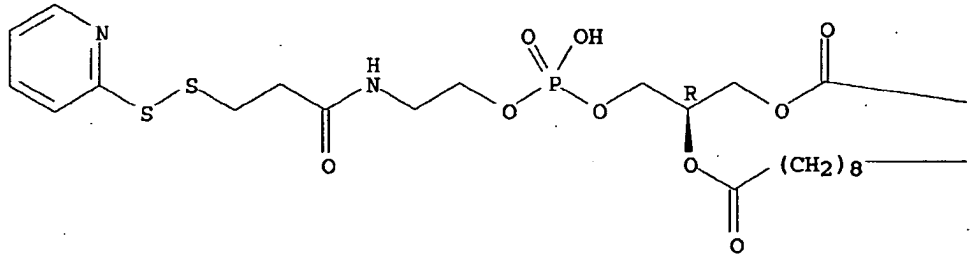
AB A galvanic cell has a cathode, an anode, and an electrolyte. The cathode and anode each have vesicles, an electroactive species encapsulated into the vesicles, a conducting substrate, and functionalized tethers immobilizing the vesicles to the substrates. The electrolyte is in contact with both conducting substrates. At least some of the vesicles contain benzoquinone and/or hydroquinone.

IT **651712-29-7**
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(biobased microbattery)

RN 651712-29-7 HCAPLUS
CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.

PAGE 1-A



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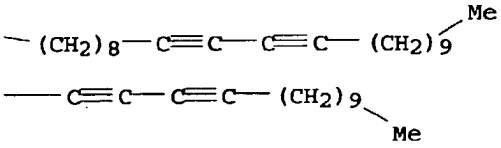


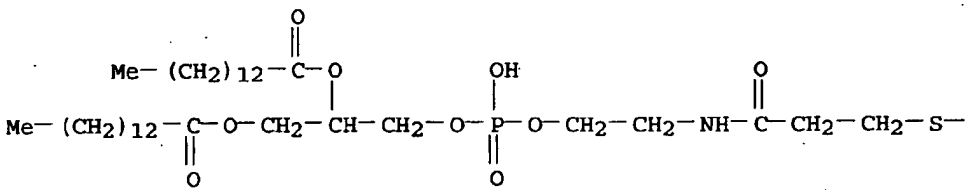
L6 ANSWER 2 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:960519 HCAPLUS
DOCUMENT NUMBER: 140:141411
TITLE: Unraveling the Mystery Surrounding Cholesterol's Condensing Effect
AUTHOR(S): Cao, Honghua; Tokutake, Nobuya; Regen, Steven L.
CORPORATE SOURCE: Department of Chemistry, Lehigh University, Bethlehem, PA, 18015, USA
SOURCE: Journal of the American Chemical Society (2003), 125(52), 16182-16183
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Nearest-neighbor recognition expts. have been carried out with exchangeable dimers derived from 1,2-dimyristoyl-sn-glycero-3-phosphoethanolamine and 1,2-distearoyl-sn-glycero-3-phosphoethanolamine in the presence of cholesterol, dihydrocholesterol, coprostanol, cholestane, cholesteryl Me ether, and sitosterol. The results provide strong support for a condensing mechanism in which the flexible acyl chains of the phospholipids perfectly complement the shape of neighboring sterols, thereby leading to a high no. of hydrophobic contacts and tight packing.

IT **354553-44-9 354553-45-0 354553-46-1**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(structure-activity anal. suggests cholesterol unravels neighboring membrane phospholipids by providing rigid template that maximizes hydrophobic interactions)

RN 354553-44-9 HCAPLUS
CN Tetradecanoic acid, 5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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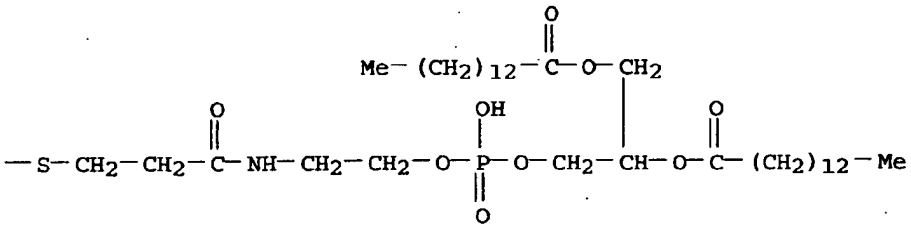
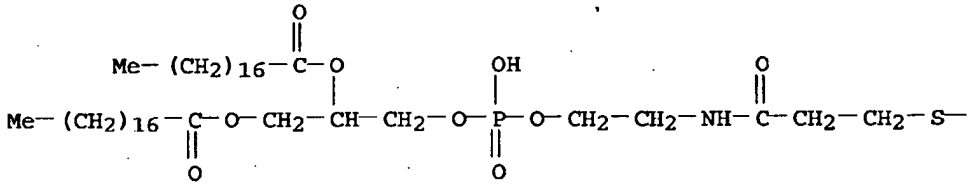


RN 354553-45-0 HCAPLUS
CN Octadecanoic acid, 5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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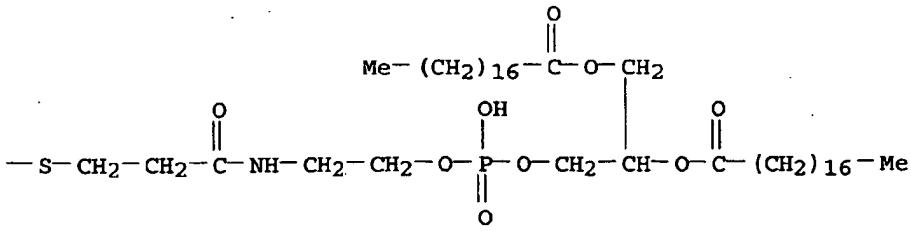
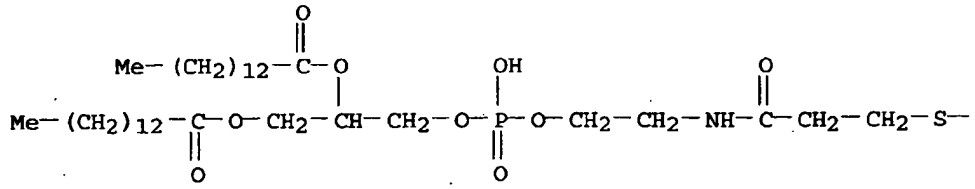


RN 354553-46-1 HCAPLUS

CN Octadecanoic acid, 1-[3,20-dihydroxy-3,20-dioxido-8,15,26-trioxo-23-[(1-oxotetradecyl)oxy]-2,4,19,21,25-pentaoxa-11,12-dithia-7,16-diaza-3,20-diphosphanonatriacont-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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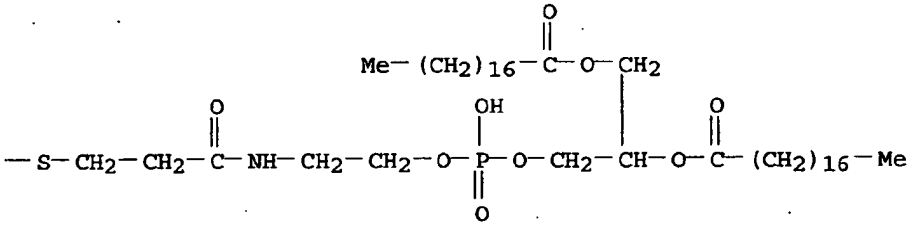


REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 3 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:946176 HCAPLUS
DOCUMENT NUMBER: 140:142132
TITLE: Structural and Electrochemical Characterization of Immobilized Polymerized Electroactive Vesicles
AUTHOR(S): Stanish, I.; Lowy, D. A.; Lee, Y.; Fang, J.; Wong, E.; Ray, R. I.; Singh, A.
CORPORATE SOURCE: Center for Bio/Molecular Science and Engineering, Naval Research Laboratory, Washington, DC, 20375, USA
SOURCE: Journal of Physical Chemistry B (2004), 108(1), 127-135
CODEN: JPCBFK; ISSN: 1520-6106
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Immobilized polymd. electroactive vesicles (IPEVs) are biocapsules capable of storing charge in confined environments and of chemisorbing on conductive metal surfaces. Methods to immobilize stable electroactive vesicles and the means to measure their electroactivity at nanocoulomb levels are demonstrated. Charge transport between the electrode surface and the vesicle interior is tuned by adjusting the concn. of a membrane-sol. electron mediator. IPEVs serve as a model for developing biomimetic systems intended for charge storage and electron coupling applications.

IT **651712-30-0P**
RL: DEV (Device component use); PEP (Physical, engineering or chemical

process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); USES (Uses)
(polymd. vesicle encapsulating potassium ferricyanide electron acceptor, immobilization of; structural and electrochem. characterization of immobilized polymd. electroactive vesicles)

RN 651712-30-0 HCAPLUS

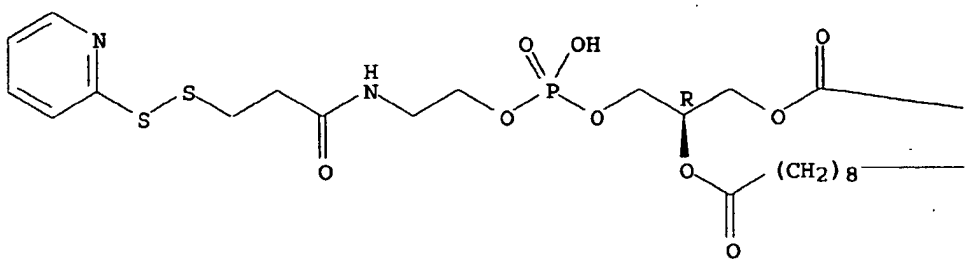
CN 3,5,9-Trioxa-4-phosphadotriaconta-19,21-diyn-1-aminium, 4-hydroxy-N,N,N-trimethyl-10-oxo-7-[(1-oxo-10,12-tricosadiynyl)oxy]-, inner salt, 4-oxide, (7R)-, polymer with (1R)-1-[3-hydroxy-3-oxido-8-oxo-10-(2-pyridinyldithio)-2,4-dioxa-7-aza-3-phosphadec-1-yl]-1,2-ethanediyl di-10,12-tricosadiynoate (9CI) (CA INDEX NAME)

CM 1

CRN 651712-29-7
CMF C59 H93 N2 O9 P S2

Absolute stereochemistry.

PAGE 1-A



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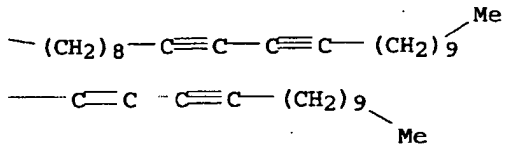
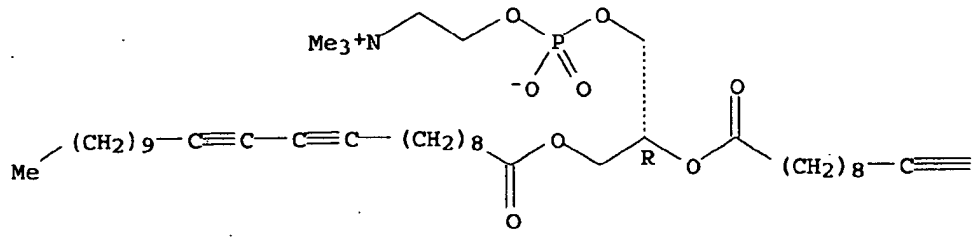


CM 2

CRN 76078-28-9
CMF C54 H92 N O8 P

Absolute stereochemistry.

PAGE 1-A



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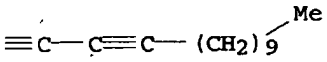
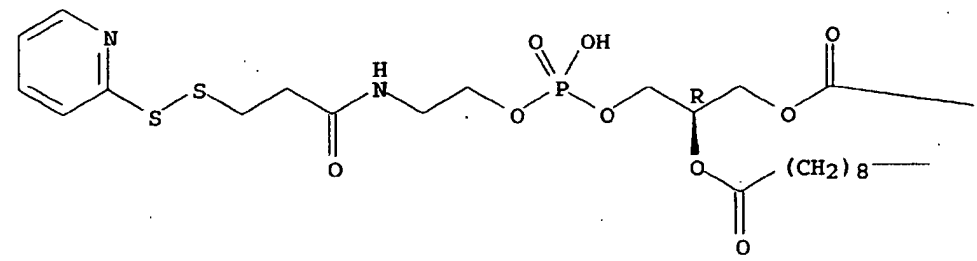


IT **651712-29-7P**
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(structural and electrochem. characterization of immobilized polymd. electroactive vesicles)
RN 651712-29-7 HCAPLUS
CN INDEX NAME NOT YET ASSIGNED

Absolute stereochemistry.

PAGE 1-A



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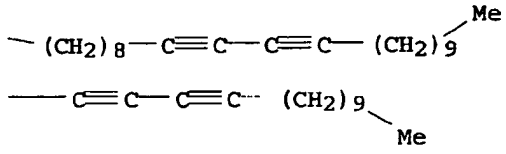


REFERENCE COUNT: 86 THERE ARE 86 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

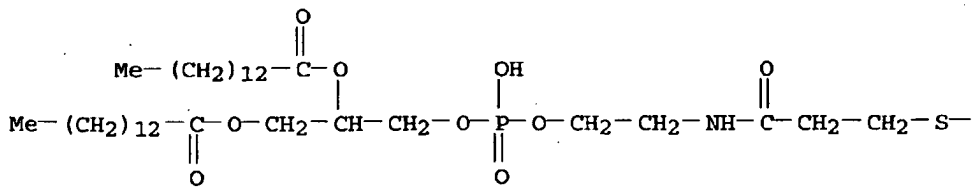
L6 ANSWER 4 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:937598 HCAPLUS
DOCUMENT NUMBER: 140:107257
TITLE: Quantifying the Effects of Deuterium Substitution on Phospholipid Mixing in Bilayer Membranes. A Nearest-Neighbor Recognition Investigation
AUTHOR(S): Tokutake, Nobuya; Jing, Bingwen; Cao, Honghua; Regen, Steven L.
CORPORATE SOURCE: Department of Chemistry, Lehigh University, Bethlehem, PA, 18015, USA
SOURCE: Journal of the American Chemical Society (2003), 125(51), 15764-15766
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Nearest-neighbor recognition measurements have established that the effects of deuterium substitution on phospholipid mixing are exceedingly small. Thus, the mixing behavior of an exchangeable phospholipid bearing two stearoyl chains with a homolog contg. two myristoyl chains in gel-fluid bilayers, fluid bilayers, cholesterol-rich fluid bilayers, and gel-fluid bilayers that have been enriched with cholesterol correspond to a difference in the free energy of mixing that is less than 2.2 cal/mol of hydrogen in all cases. These findings provide the strongest evidence to date in support of the use of deuterated phospholipids as "nonperturbing" probes for structural and dynamic studies of bilayer membranes.

IT **354553-44-9 354553-45-0 354553-46-1**
RL: PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process)
(nearest-neighbor recognition anal. confirms nonperturbing effect of deuterium substitution on mixing behavior of exchangeable phospholipids in bilayers)

RN 354553-44-9 HCAPLUS
CN Tetradecanoic acid, 5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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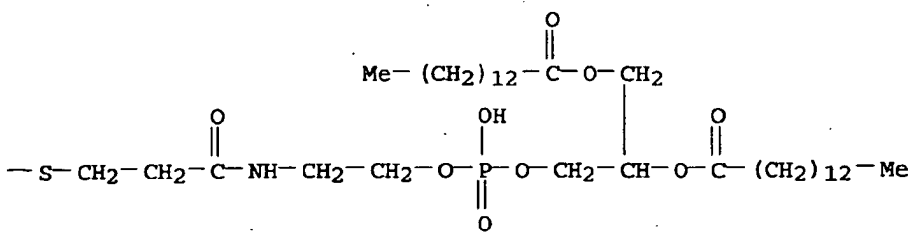
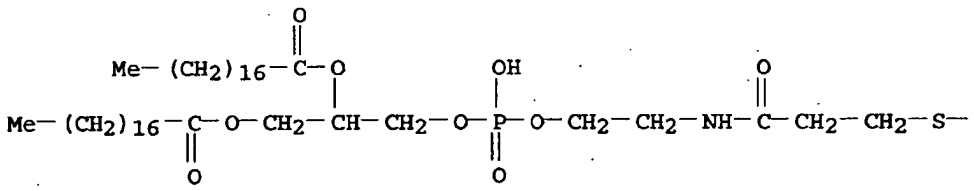


RN 354553-45-0 HCAPLUS
CN Octadecanoic acid, 5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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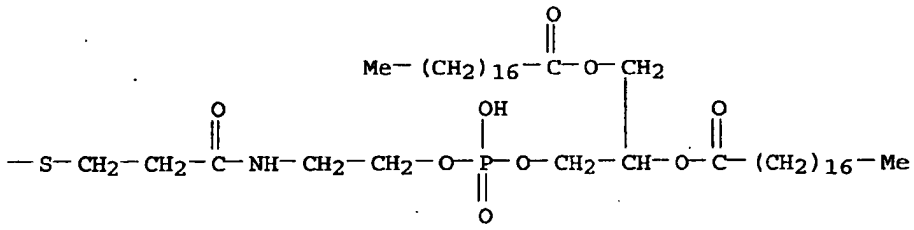
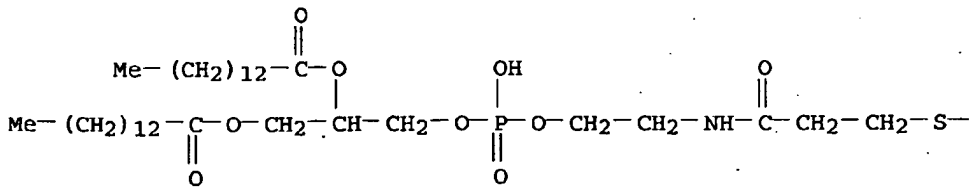


RN 354553-46-1 HCAPLUS
CN Octadecanoic acid, 1-[3,20-dihydroxy-3,20-dioxido-8,15,26-trioxo-23-[(1-oxotetradecyl)oxy]-2,4,19,21,25-pentaoxa-11,12-dithia-7,16-diaza-3,20-diphosphanonatriacont-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



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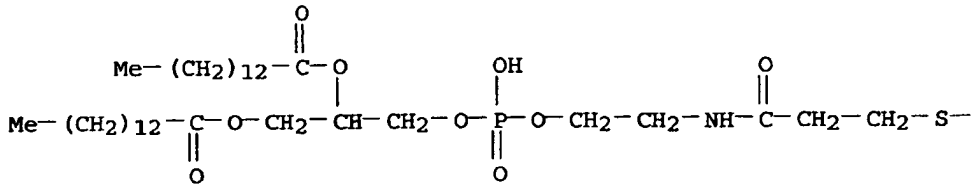

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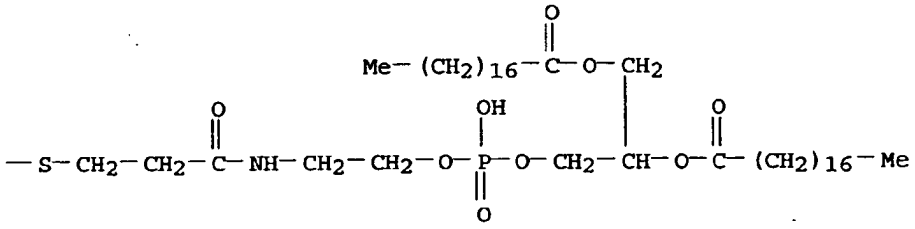


REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 5 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:784842 HCAPLUS
DOCUMENT NUMBER: 140:2138
TITLE: Selective Association of Cholesterol with Long-Chain Phospholipids in Liquid-Ordered Bilayers: Support for the Existence of Lipid Rafts
AUTHOR(S): Sugahara, Michihiro; Uragami, Maki; Regen, Steven L.
CORPORATE SOURCE: Department of Chemistry, Lehigh University, Bethlehem, PA, 18015, USA
SOURCE: Journal of the American Chemical Society (2003), 125(43), 13040-13041
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

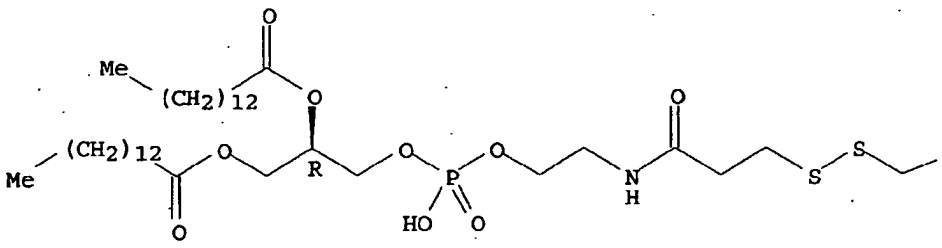
AB Nearest-neighbor recognition expts., which have been carried out under fluidizing and condensing conditions, using exchangeable dimers derived from 1,2-dimyristoyl-sn-glycero-3-phosphoethanolamine, 1,2-distearoyl-sn-glycero-3-phosphoethanolamine, and cholesterol, have provided strong evidence that sterol-phospholipid recognition is limited to the liq.-ordered phase.

IT **136424-99-2 136425-00-8 136425-01-9 359442-89-0 628339-29-7**
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(selective assocn. of cholesterol with long-chain phospholipids in liq.-ordered bilayers supports the existence of lipid rafts)

RN 136424-99-2 HCAPLUS
CN Tetradecanoic acid, (2R,25R)-5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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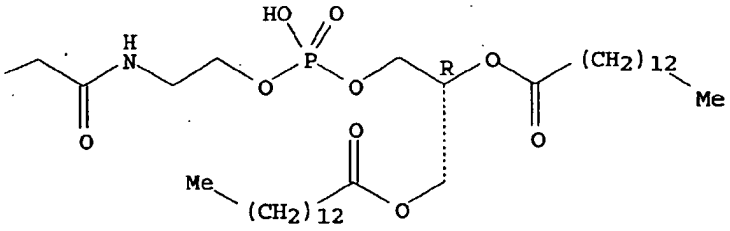

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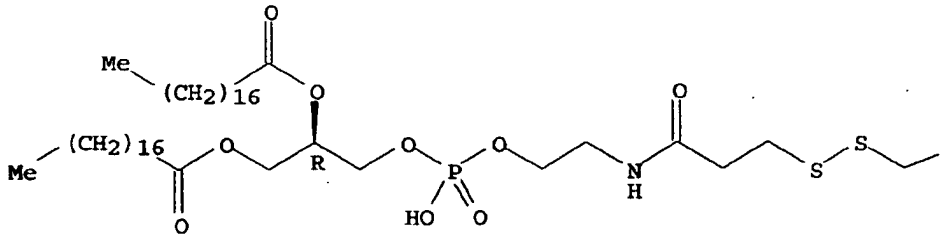
CN Octadecanoic acid, (2R,25R)-5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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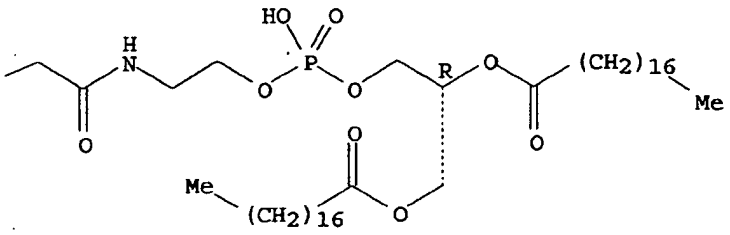
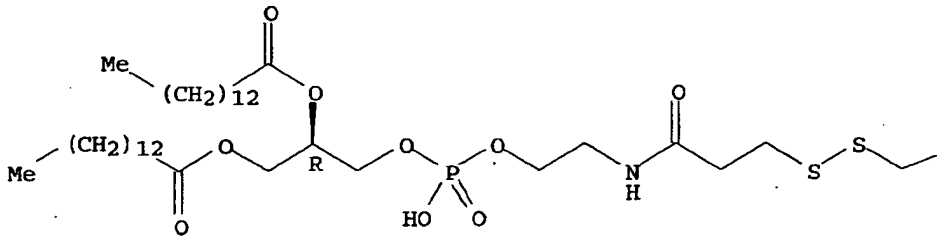


RN 136425-01-9 HCAPLUS
CN Octadecanoic acid, (1R)-1-[(23R)-3,20-dihydroxy-3,20-dioxido-8,15,26-trioxo-23-[(1-oxotetradecyl)oxy]-2,4,19,21,25-pentaoxa-11,12-dithia-7,16-diaza-3,20-diphosphanonatriacont-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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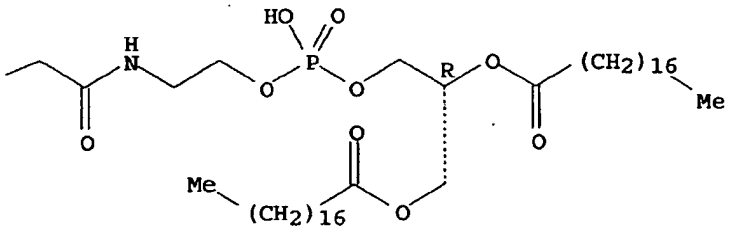
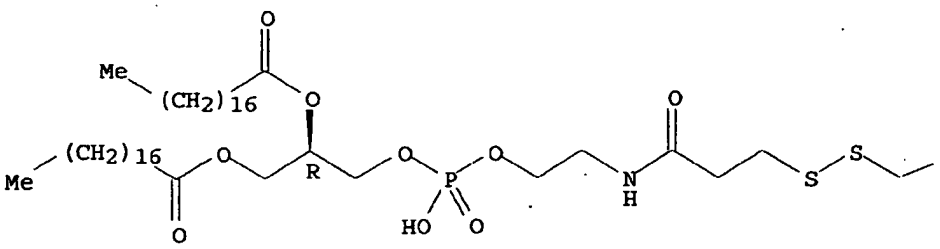


RN 359442-89-0 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (17R)-14-hydroxy-14-oxido-9,20-dioxo-17-[(1-oxooctadecyl)oxy]-13,15,19-trioxa-5,6-dithia-2,10-diaza-14-phosphaheptatriacontanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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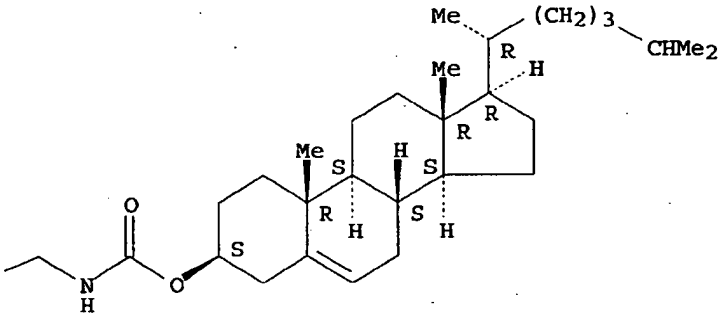
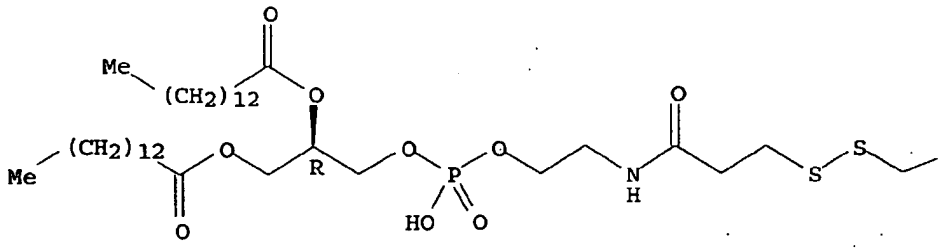


RN 628339-29-7 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (17R)-13-hydroxy-13-oxido-9,19-dioxo-17-[[(1-oxotetradecyl)oxy]methyl]-13,15,18-trioxa-5,6-dithia-2,10-diazadotriacontanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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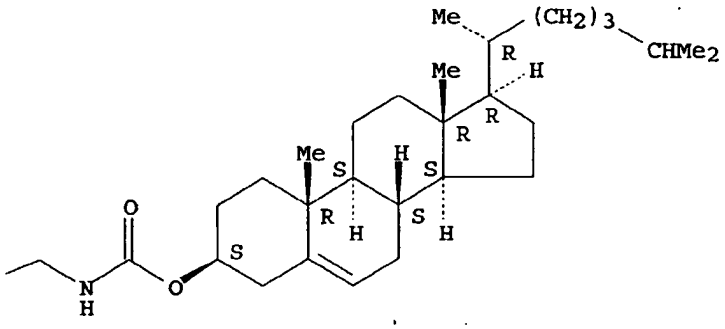


REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

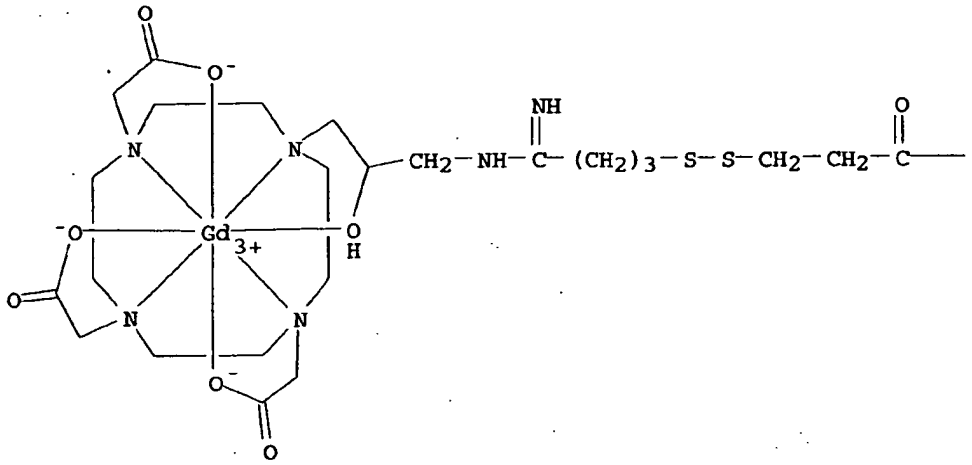
L6 ANSWER 6 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:590171 HCAPLUS
DOCUMENT NUMBER: 139:390123
TITLE: Novel radical-responsive MRI contrast agent based on paramagnetic liposomes
AUTHOR(S): Glogard, Christian; Stensrud, Gry; Aime, Silvio
CORPORATE SOURCE: Department of Medicinal Chemistry, School of Pharmacy, University of Oslo, Oslo, N-0318, Norway
SOURCE: Magnetic Resonance in Chemistry (2003), 41(8), 585-588
CODEN: MRCHEG; ISSN: 0749-1581
PUBLISHER: John Wiley & Sons Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A novel, radical responsive MRI contrast agent based on a Gd chelate conjugated to a liposome through a disulfide linker was synthesized, with the aim of pursuing the in vivo mapping of radicals. The liposome was prepd. by incorporating a thiol-activated phospholipid, which was subsequently reacted with a Gd chelate contg. a free thiol group. The long reorientational motion of the supramol. adduct endows the paramagnetic agent with a relaxivity significantly higher than that of the free complex. The disulfide bond represents a radical-sensitive moiety and a large decrease in contrast efficacy (T1 relaxivity) is shown upon its cleavage. A preliminary assessment of the system was made by in vitro gamma-irradn. and thiol-disulfide bond exchange with dithiothreitol. Both methods showed a clear dose-dependent decrease in T1-relaxivity.

IT **625080-33-3P**
RL: DGN (Diagnostic use); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(prepn. and disulfide cleavage by .gamma.-irradn. or with dithiothreitol as radical-responsive MRI contrast agent)

RN 625080-33-3 HCAPLUS
CN Gadolinate(1-), [10-[2-(hydroxy-.kappa.O)-18-hydroxy-5-imino-18-oxido-13,24-dioxo-21-[(1-oxohexadecyl)oxy]-17,19,23-trioxa-9,10-dithia-4,14-diaza-18-phosphanonatriacont-1-yl]-1,4,7,10-tetraazacyclododecane-1,4,7-triacetato(4-)-.kappa.N1,.kappa.N4,.kappa.N7,.kappa.N10,.kappa.O1,.kappa.O4,.kappa.O7]-, hydrogen (9CI) (CA INDEX NAME)

PAGE 1-A



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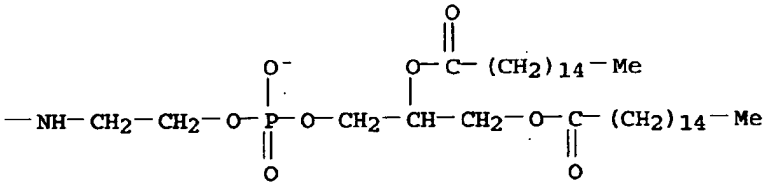


REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 7 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:502072 HCAPLUS
DOCUMENT NUMBER: 139:193275
TITLE: Detection of Unusual Lipid Mixing in Cholesterol-Rich Phospholipid Bilayers: The Long and the Short of It
AUTHOR(S): Tokutake, Nobuya; Jing, Bingwen; Regen, Steven L.
CORPORATE SOURCE: Department of Chemistry, Lehigh University, Bethlehem, PA, 18015, USA
SOURCE: Journal of the American Chemical Society (2003), 125(30), 8994-8995
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Nearest-neighbor recognition studies have revealed that favored

sterol-phospholipid assocns. can be reversed in a fluid bilayer that contains relatively long (high melting) and short (low melting) phospholipids, when the sterol content is sufficiently high; i.e., like lipids now become favored nearest-neighbors. A possible origin of this effect is briefly discussed.

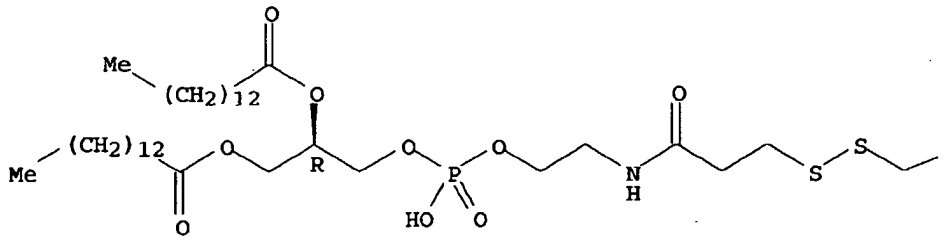
IT **136424-99-2 136425-00-8 136425-01-9**
**585542-11-6 585542-12-7 585542-13-8**
**585542-14-9 585542-15-0**
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); BIOL (Biological study); PROC (Process)
(detection of unusual lipid mixing in cholesterol-rich phospholipid bilayers contg. long and short phospholipids)

RN 136424-99-2 HCAPLUS

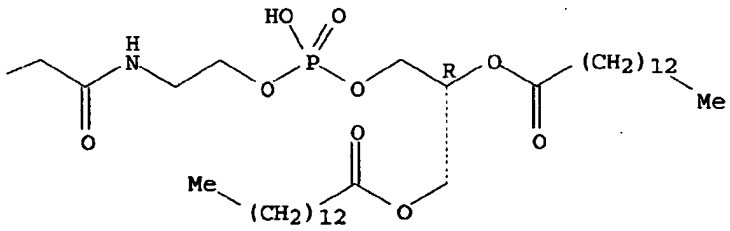
CN Tetradecanoic acid, (2R,25R)-5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

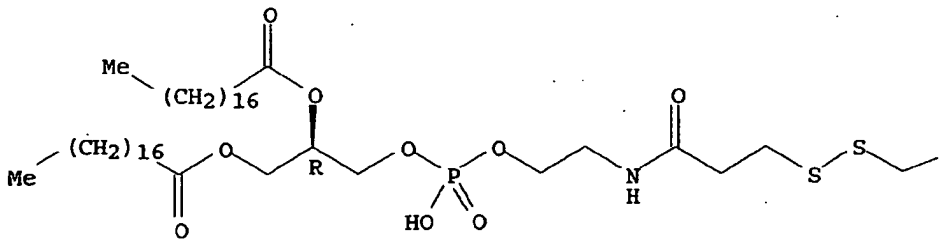


RN 136425-00-8 HCAPLUS

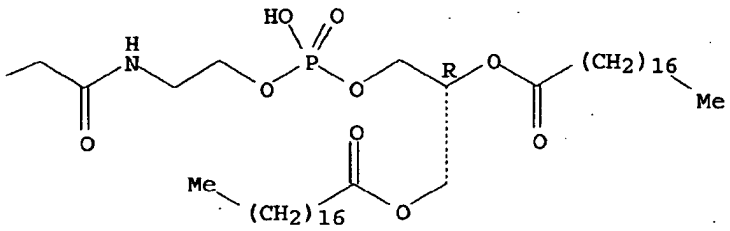
CN Octadecanoic acid, (2R,25R)-5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



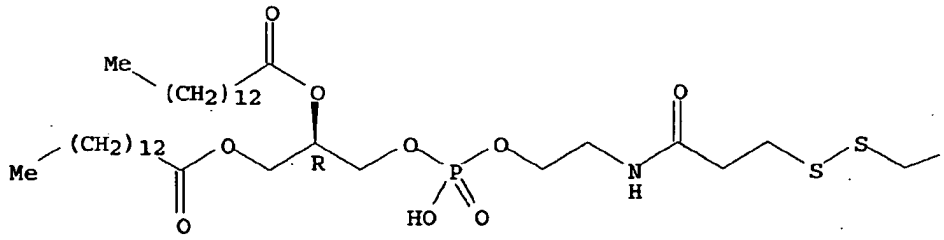
PAGE 1-B



RN 136425-01-9 HCAPLUS
CN Octadecanoic acid, (1R)-1-[(23R)-3,20-dihydroxy-3,20-dioxido-8,15,26-trioxo-23-[(1-oxotetradecyl)oxy]-2,4,19,21,25-pentaoxa-11,12-dithia-7,16-diaza-3,20-diphosphanonatriacont-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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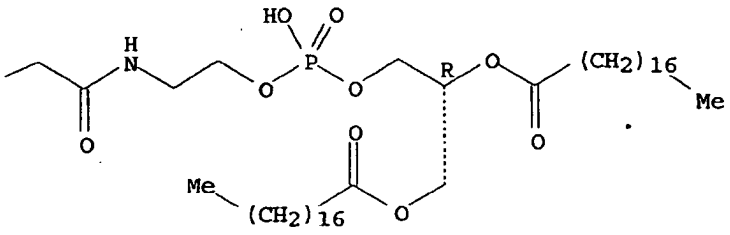
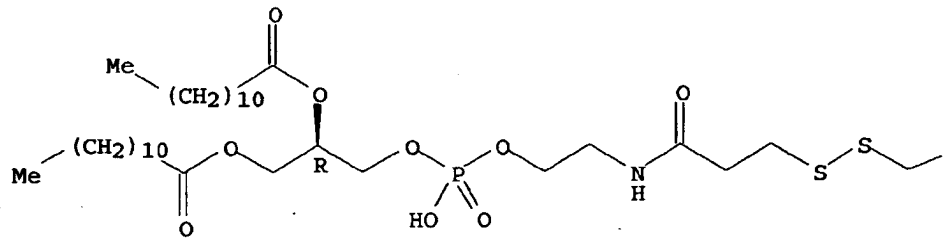


RN 585542-11-6 HCAPLUS
CN Dodecanoic acid, (2R,25R)-5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosa-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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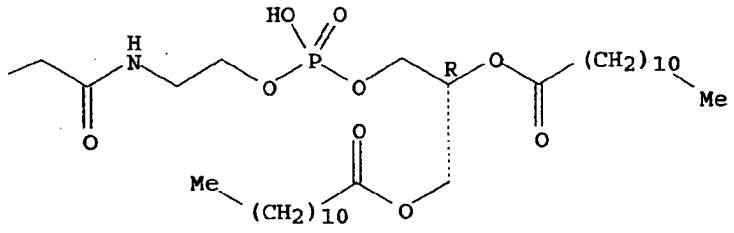
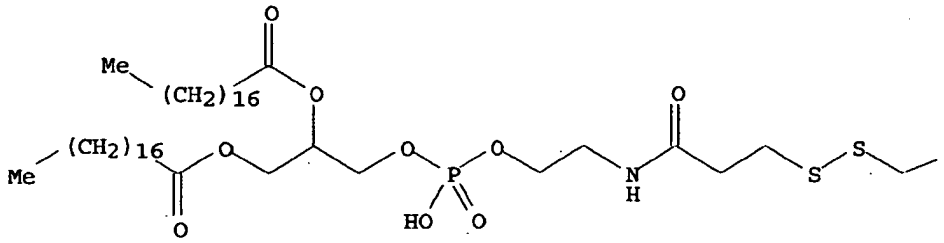


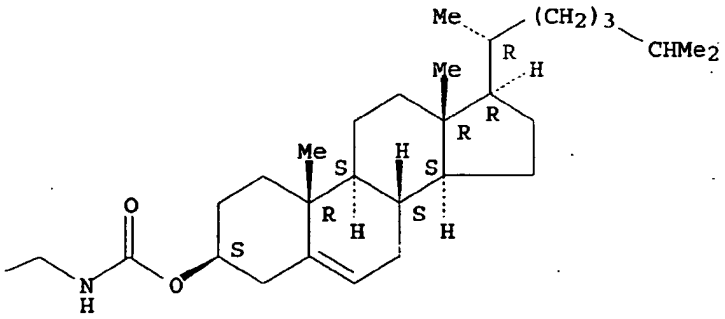
RN 585542-12-7 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, 14-hydroxy-14-oxido-9,20-dioxo-17-[(1-oxooctadecyl)oxy]-13,15,19-trioxa-5,6-dithia-2,10-diaza-14-phosphaheptatriacontanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



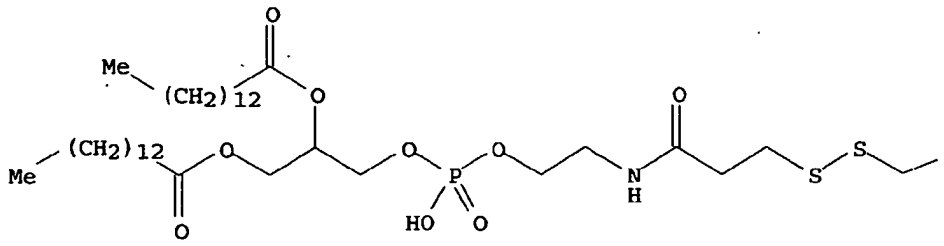
PAGE 1-B



RN 585542-13-8 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, 13-hydroxy-13-oxido-9,19-dioxo-17-[[(1-oxotetradecyl)oxy]methyl]-13,15,18-trioxa-5,6-dithia-2,10-diazadotriacontanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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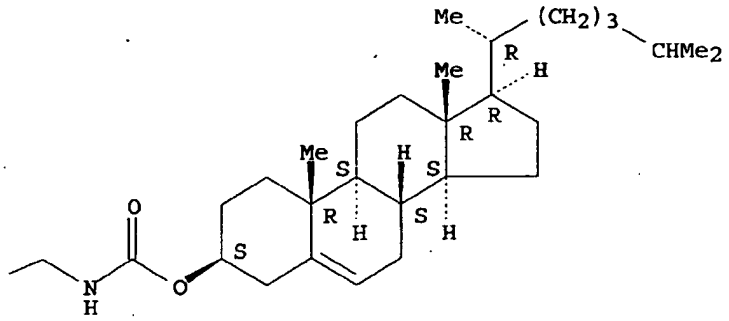
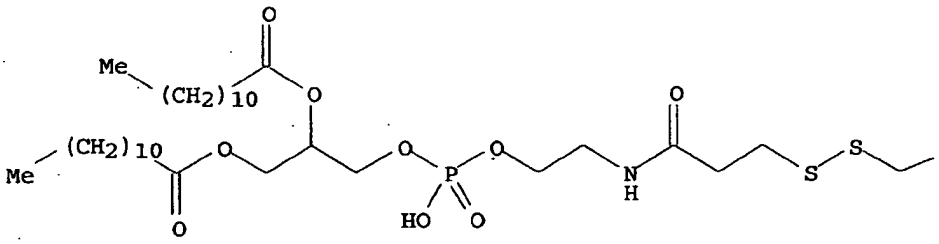


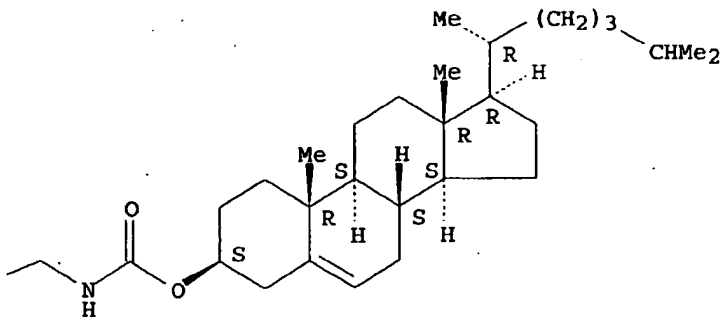
RN 585542-14-9 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, 13-hydroxy-13-oxido-9,19-dioxo-17-[[(1-oxododecyl)oxy]methyl]-13,15,18-trioxa-5,6-dithia-2,10-diazatriacontanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



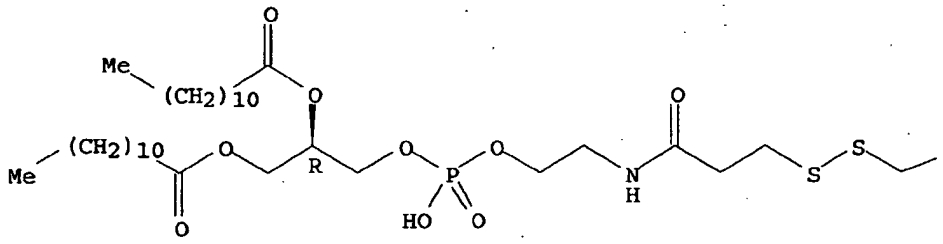
PAGE 1-B



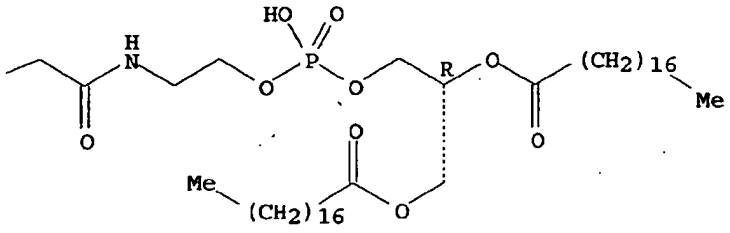
RN 585542-15-0 HCAPLUS
CN Octadecanoic acid, (1R)-1-[(23R)-3,20-dihydroxy-3,20-dioxido-8,15,26-trioxo-23-[(1-oxododecyl)oxy]-2,4,19,21,25-pentaoxa-11,12-dithia-7,16-diaza-3,20-diphosphaheptatriacont-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 8 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:855052 HCAPLUS
DOCUMENT NUMBER: 139:48923
TITLE: Influence of the Linkage Region of Sphingolipids on Sphingolipid-Phospholipid Mixing in Cholesterol-Rich Bilayers
AUTHOR(S): Tokutake, Nobuya; Uragami, Maki; Regen, Steven L.
CORPORATE SOURCE: Department of Chemistry, Lehigh University, Bethlehem, PA, 18015, USA
SOURCE: Langmuir (2003), 19(16), 6363-6366
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:48923
AB The influence of the linkage region of a sphingolipid on its mixing with a phospholipid in cholesterol-rich bilayers has been examd. by use of the nearest-neighbor recognition method. Thus, an anal. of equil. dimer distributions derived from an exchangeable sphingolipid monomer (SL, made from N-stearoyl-D-erythro-sphinganine) or a phospholipid analog (PL, made

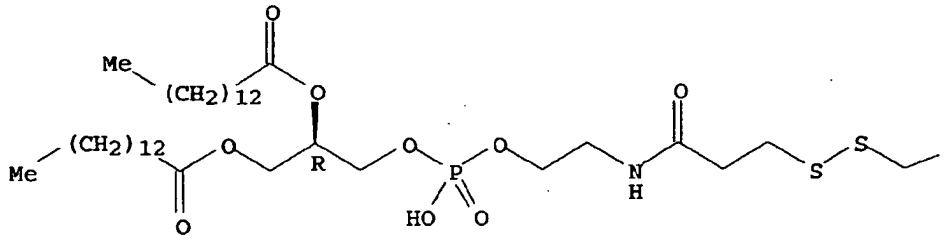
from 1-myristoyl-2-stearoyl-sn-glycero-3-phosphoethanolamine) plus a shorter phospholipid (14, made from 1,2-dimyristoyl-sn-glycero-3-phosphoethanolamine) has revealed a preference for homolipid assocn. in SL/14-based bilayers; i.e., the linkage region of the sphingolipid promotes its segregation from the phospholipid. Inclusion of 20-40 mol % cholesterol increases this preference for homolipid assocn. The magnitude of this effect is similar to that found in cholesterol-rich bilayers contg. two exchangeable phospholipids, which differ in length by four methylene units, i.e., 18 (made from 1,2-distearoyl-sn-glycero-3-phosphoethanolamine) and 14. The relevance of these findings to the concept of lipid rafts is briefly discussed.

IT **136424-99-2 136425-00-8**
RL: BSU (Biological study, unclassified); MSC (Miscellaneous); PRP (Properties); BIOL (Biological study)
(influence of the linkage region of sphingolipids on sphingolipid-phospholipid mixing in cholesterol-rich bilayers and relevance for lipid rafts)

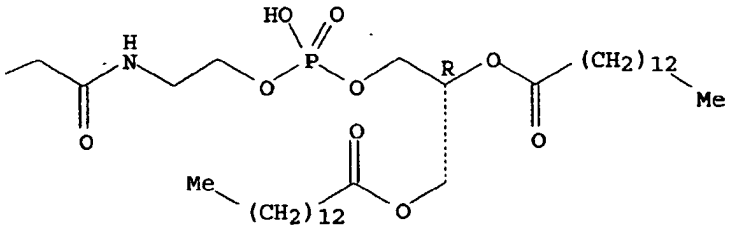
RN 136424-99-2 HCAPLUS
CN Tetradecanoic acid, (2R,25R)-5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



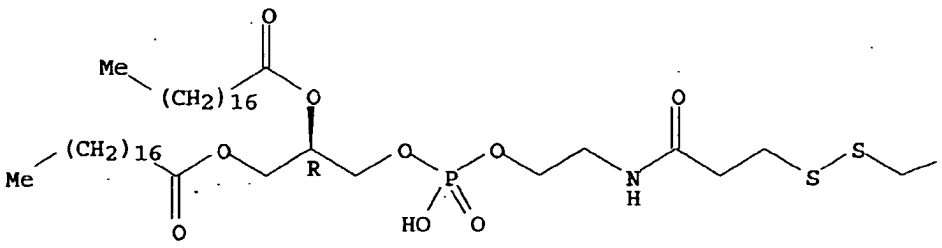
PAGE 1-B



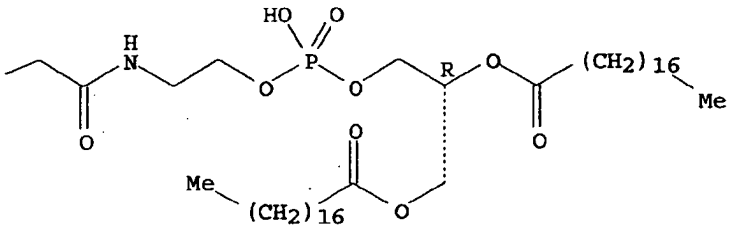
RN 136425-00-8 HCAPLUS
CN Octadecanoic acid, (2R,25R)-5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



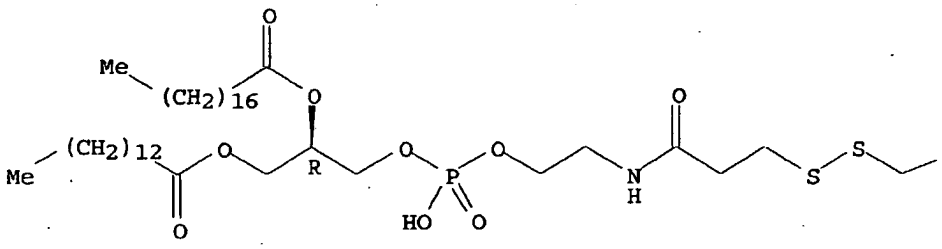
IT **481717-54-8P 481717-55-9P 481717-56-0P**
RL: BSU (Biological study, unclassified); MSC (Miscellaneous); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(influence of the linkage region of sphingolipids on sphingolipid-phospholipid mixing in cholesterol-rich bilayers and relevance for lipid rafts)

RN 481717-54-8 HCAPLUS

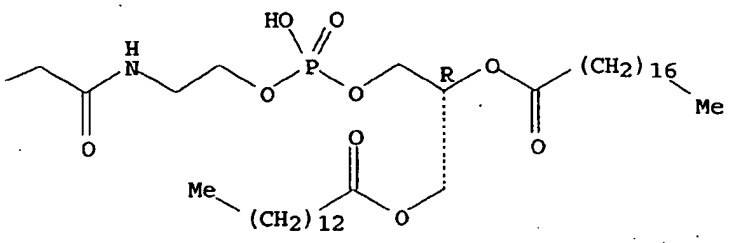
CN Octadecanoic acid, (1R,24R)-4,21-dihydroxy-4,21-dioxido-9,16-dioxo-1,24-bis[[(1-oxotetradecyl)oxy]methyl]-3,5,20,22-tetraoxa-12,13-dithia-8,17-diaza-4,21-diphosphatetracosane-1,24-diyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



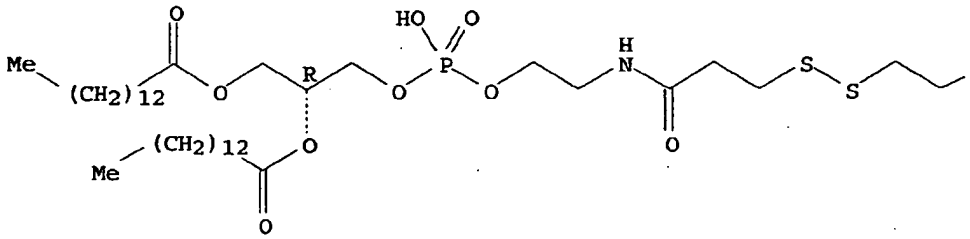
PAGE 1-B



RN 481717-55-9 HCAPLUS
CN Tetradecanoic acid, (1R)-1-[(23S)-3,20-dihydroxy-23-[(1R)-1-hydroxyhexadecyl]-3,20-dioxido-8,15,25-trioxo-2,4,19,21-tetraoxa-11,12-dithia-7,16,24-triaza-3,20-diphosphadotetracont-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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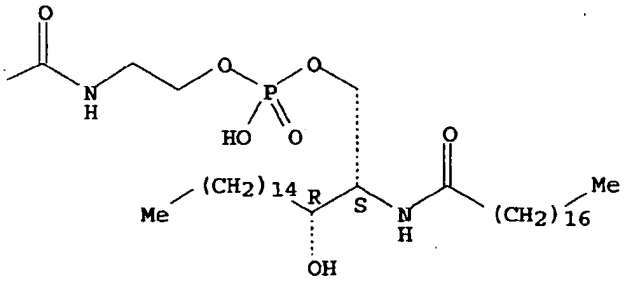
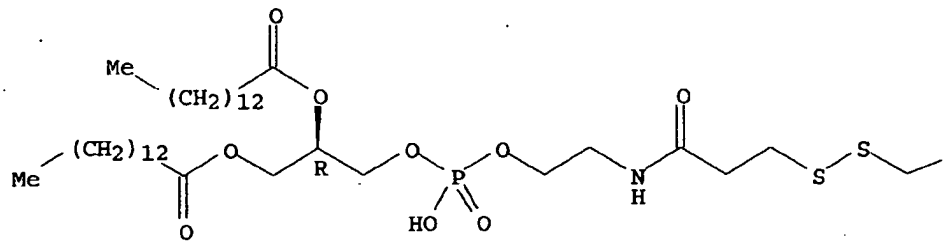


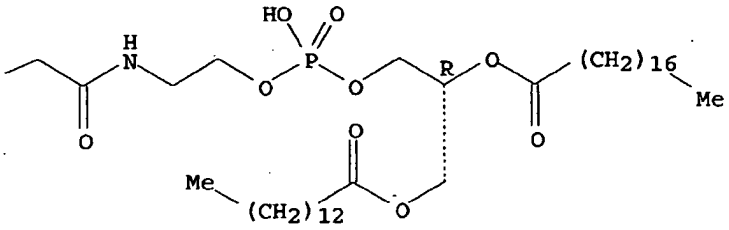
RN 481717-56-0 HCAPLUS
CN Octadecanoic acid, (1R,24R)-4,21-dihydroxy-4,21-dioxido-9,16,27-trioxo-1,24-bis[[(1-oxotetradecyl)oxy]methyl]-3,5,20,22,26-pentaoxa-12,13-dithia-8,17-diaza-4,21-diphosphatetracont-1-yl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 9 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:754185 HCAPLUS
DOCUMENT NUMBER: 137:268460
TITLE: Liposome composition for improved intracellular delivery of a therapeutic agent
INVENTOR(S): Zalipsky, Samuel; Allen, Theresa M.; Huang, Shi Kun
PATENT ASSIGNEE(S): Alza Corporation, USA
SOURCE: PCT Int. Appl., 54 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2002076428 | A1 | 20021003 | WO 2002-US9330 | 20020326 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| US 2002192275 | A1 | 20021219 | US 2002-108154 | 20020326 |
| EP 1385479 | A1 | 20040204 | EP 2002-733895 | 20020326 |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR

PRIORITY APPLN. INFO.: US 2001-278869P P 20010326
WO 2002-US9330 W 20020326

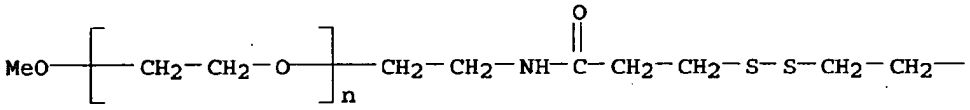
AB A liposomal compn. and a method of using the same for achieving intracellular delivery of a liposome-entrapped agent is described. The liposomes are composed of a pH sensitive lipid and include a targeting ligand to direct the liposomes to a target cell. The liposomes also include a stabilizing component, such a polymer-derivatized lipid, where the polymer is attached to the lipid by a releasable linkage. Administration of the liposomes results in cellular internalization and destabilization of the liposome for intracellular delivery of the entrapped agent. Sterically stabilized pH-sensitive liposomes were prepd. from a mixt. of dioleoylphosphatidylethanolamine (DOPE) or DOPE/cholesteryl hemisuccinate and either mPEG-DSPE or mPEG-S-S-DSPE DSPE-PEG-maleimide. The mean diam. of liposomes was detd. by dynamic light scattering.

IT **444083-98-1**
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(liposome compn. for improved intracellular delivery of therapeutic agent)

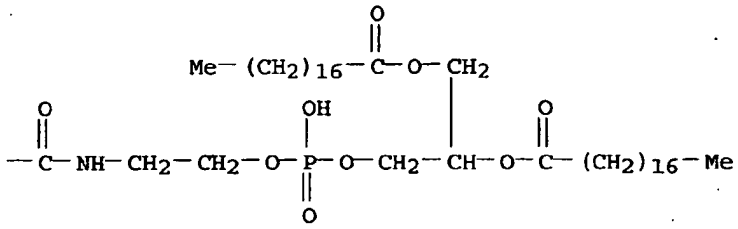
RN 444083-98-1 HCAPLUS

CN Poly(oxy-1,2-ethanediyl), .alpha.-(16-hydroxy-16-oxido-4,11,23-trioxo-19-[(1-oxooctadecyl)oxy]-15,17,21-trioxa-7,8-dithia-3,12-diaza-16-phosphanonatriacont-1-yl)-.omega.-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 10 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:555756 HCAPLUS
DOCUMENT NUMBER: 137:121864
TITLE: Biosensor with covalently attached membrane-spanning proteins

INVENTOR(S): Lakey, Jeremy Hugh
PATENT ASSIGNEE(S): Newcastle University Ventures Limited, UK
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| WO 2002057780 | A1 | 20020725 | WO 2002-GB222 | 20020118 |
| W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM | | | | |
| RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG | | | | |
| EP 1352245 | A1 | 20031015 | EP 2002-732154 | 20020118 |
| R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR | | | | |

PRIORITY APPLN. INFO.:

| | | |
|---|---|---|
| GB 2001-1279 | A | 20010118 |
| GB 2001-8947 | A | 20010410 |
| WO 2002-GB222 | W | 20020118 |

AB The invention concerns a product comprising: a membrane-spanning protein; a lipid membrane formed from amphiphilic mols. and membrane-spanning protein mols.; and a substrate: characterized in that the membrane protein is directly coupled to the substrate. The invention also provides a method for producing such a product which (i) comprises treating a substrate with a hydrophilic coating agent; (ii) providing at least one membrane-spanning protein; (iii) bringing the protein into contact with the treated substrate under conditions for the coupling of the protein directly to the treated substrate; (iv) adding amphiphilic mols. to the protein-coupled substrate to form a lipid membrane. The product is useful for biosensors, protein arrays and the like.

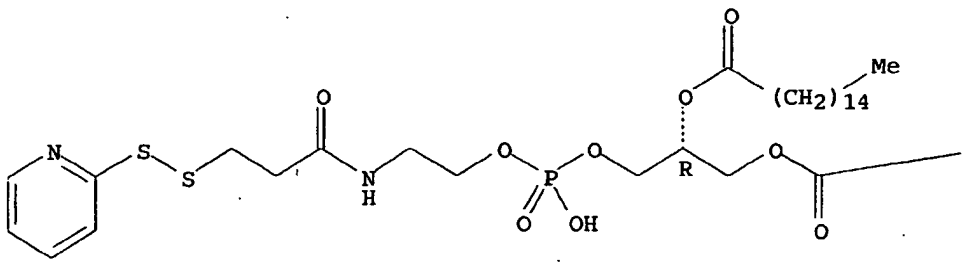
IT **87707-01-5 186133-87-9**
RL: PRP (Properties)
(biosensor with covalently attached membrane-spanning proteins)

RN 87707-01-5 HCAPLUS

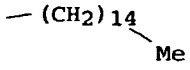
CN Hexadecanoic acid, (1R)-1-[3-hydroxy-3-oxido-8-oxo-10-(2-pyridinyldithio)-2,4-dioxa-7-aza-3-phosphadec-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



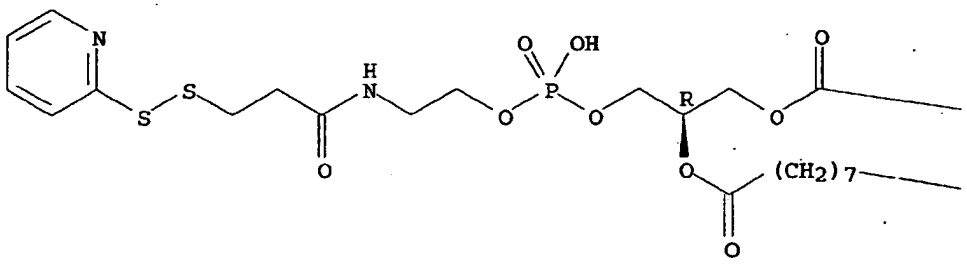
PAGE 1-B



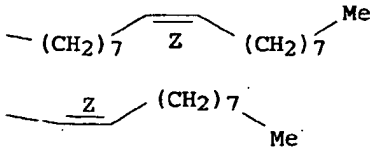
RN 186133-87-9 HCAPLUS
CN 9-Octadecenoic acid (9Z)-, (1R)-1-[3-hydroxy-3-oxido-8-oxo-10-(2-pyridinyldithio)-2,4-dioxa-7-aza-3-phosphadec-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

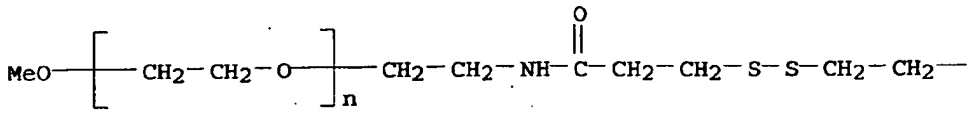
L6 ANSWER 11 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:196198 HCAPLUS
DOCUMENT NUMBER: 137:252822
TITLE: Optimization of a peptide/non-cationic lipid gene delivery system for effective microinjection into chicken embryo in vivo
AUTHOR(S): Longmuir, Kenneth J.; Haynes, Sherry M.; Dickinson, Mary B.; Murphy, Jason C.; Willson, Richard C.; Waring, Alan J.
CORPORATE SOURCE: Department of Physiology & Biophysics, College of Medicine, University of California, Irvine, CA, 92697-4560, USA
SOURCE: Molecular Therapy (2001), 4(1), 66-74
CODEN: MTOHCK; ISSN: 1525-0016
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Here we report the characterization and optimization of a peptide/non-cationic lipid gene delivery system that successfully produces high levels of gene expression when delivered by microinjection into chicken embryos in vivo. In addn. to plasmid DNA, the delivery complex consisted of four components: 1) a "condensing" peptide with both hydrophobic and cationic amino acid segments; 2) a "fusogenic" peptide with both membrane insertion and amphipathic helical segments; 3) a relatively short-chain phosphatidylcholine (14:1 cis-9); and 4) polyethyleneglycol conjugated to dioleoylphosphatidylethanolamine through a disulfide linkage. Optimum amts. of each component were detd. by measuring expression of a luciferase reporter gene following a 24-h incubation with chick embryo fibroblast (CEF) cells in culture. When relatively low amts. of condensing peptide, fusogenic peptide, or lipid were assembled into the complexes, relatively large concns. of complex were required to reach max. gene expression. When the amts. of peptide or lipid were increased, less complex was required to achieve max. expression, but expression fell substantially with higher amts. of added complex. The polyethyleneglycol component significantly increased gene expression. With some prepns., luciferase activities in the CEF cells reached 1 .times. 1010 relative light units per s per mg protein within 24 h. Following the optimization expts. with the CEF cells, formulations contg. low levels, intermediate levels, and high levels of the delivery system components were assembled with green fluorescent protein plasmid DNA, then microinjected into somite regions of chicken embryos in vivo. It was found that intermediate levels of the components gave the most reliable formulations for inducing localized gene expression in the somitic cells. (c) 2001 Academic Press.

IT **444083-98-1**
RL: MOA (Modifier or additive use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(optimization of peptide/non-cationic lipid gene delivery system for effective microinjection into chicken embryo in vivo)

RN 444083-98-1 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-(16-hydroxy-16-oxido-4,11,23-trioxo-19-[(1-oxooctadecyl)oxy]-15,17,21-trioxa-7,8-dithia-3,12-diaza-16-phosphanonatriacont-1-yl)-.omega.-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



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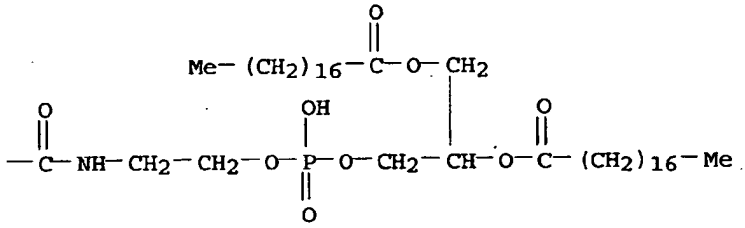
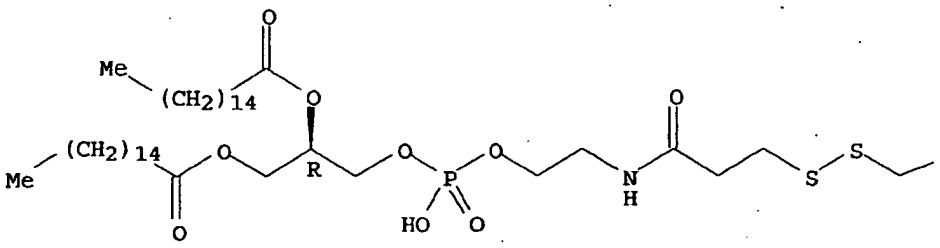


REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

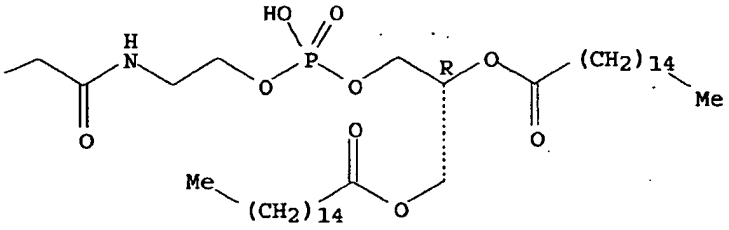
L6 ANSWER 12 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:64483 HCAPLUS
DOCUMENT NUMBER: 136:243540
TITLE: Sugar-Based Lipid Headgroups: How Sticky Are They?
AUTHOR(S): Sugahara, Michihiro; Uragami, Maki; Tokutake, Nobuya; Yan, Xun; Regen, Steven L.
CORPORATE SOURCE: Department of Chemistry, Lehigh University, Bethlehem, PA, 18015, USA
SOURCE: Langmuir (2002), 18(4), 981-983
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB This paper reports the synthesis of a disulfide-based exchangeable glycophospholipid and establishes that this lipid mixes, ideally, with a shorter-chain, phospholipid analog in cholesterol-rich fluid bilayers. These findings indicate that associative interactions between carbohydrate headgroups are unlikely to provide a significant driving force for the clustering of glycolipids in biol. membranes.
IT **136425-02-0**
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(synthesis of an exchangeable glycophospholipid and mix-ability with a shorter-chain, phospholipid analog in bilayers)
RN 136425-02-0 HCAPLUS
CN Hexadecanoic acid, (2R,25R)-5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



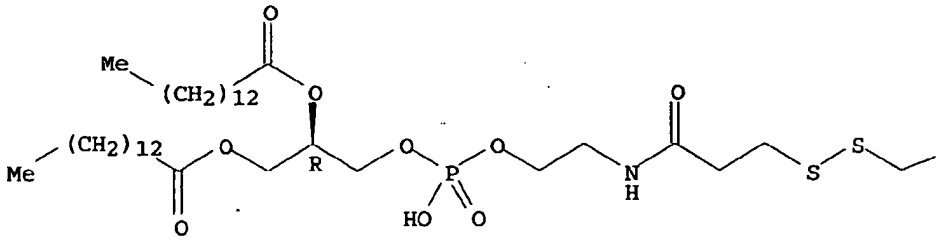
IT **136444-35-4P 404589-74-8P**
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(synthesis of an exchangeable glycophospholipid and mix-ability with a shorter-chain, phospholipid analog in bilayers)

RN 136444-35-4 HCAPLUS

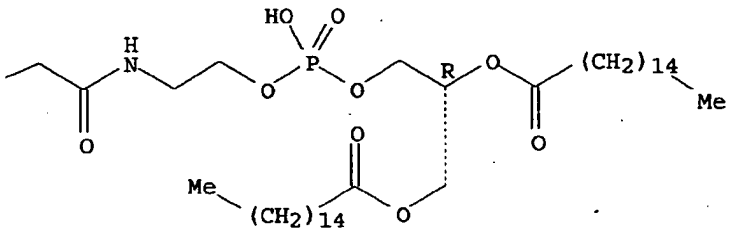
CN Hexadecanoic acid, (1R)-1-[(23R)-3,20-dihydroxy-3,20-dioxido-8,15,26-trioxo-23-[(1-oxotetradecyl)oxy]-2,4,19,21,25-pentaoxa-11,12-dithia-7,16-diaza-3,20-diphosphanonatriacont-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



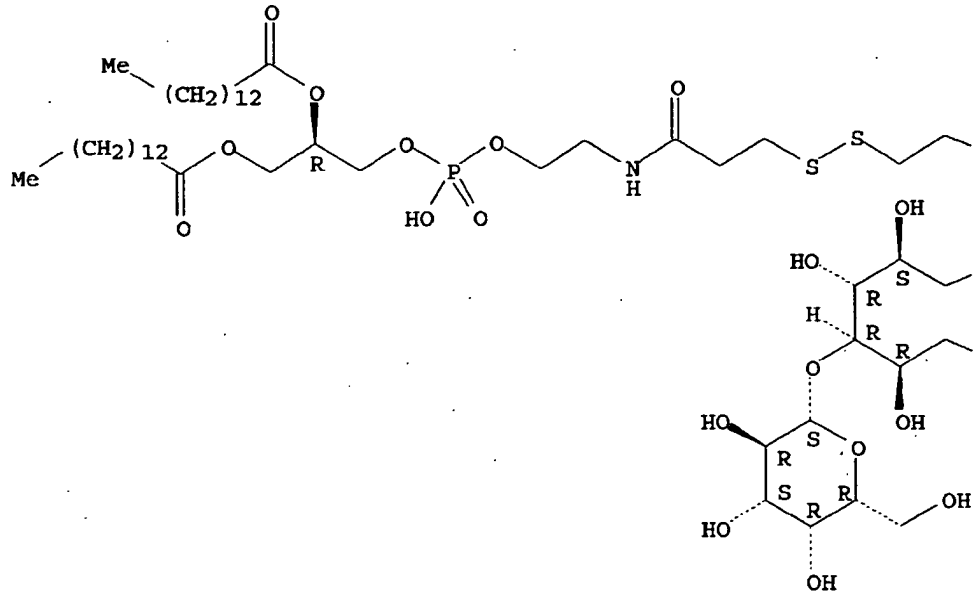
PAGE 1-B



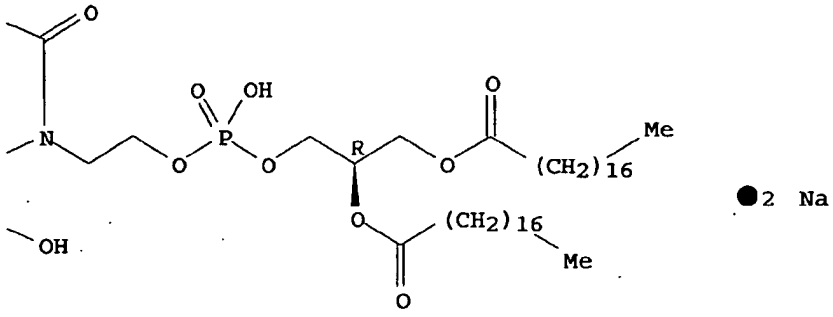
RN 404589-74-8 HCAPLUS
CN D-Glucitol, 1-deoxy-4-O-.beta.-D-galactopyranosyl-1-[[(7R)-4-hydroxy-4-oxido-10-oxo-7-[(1-oxooctadecyl)oxy]-3,5,9-trioxa-4-phosphaheptacos-1-yl][(16R)-13-hydroxy-13-oxido-1,8,19-trioxo-16-[(1-oxotetradecyl)oxy]-12,14,18-trioxa-4,5-dithia-9-aza-13-phosphadotriacont-1-yl]amino]-, disodium salt (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



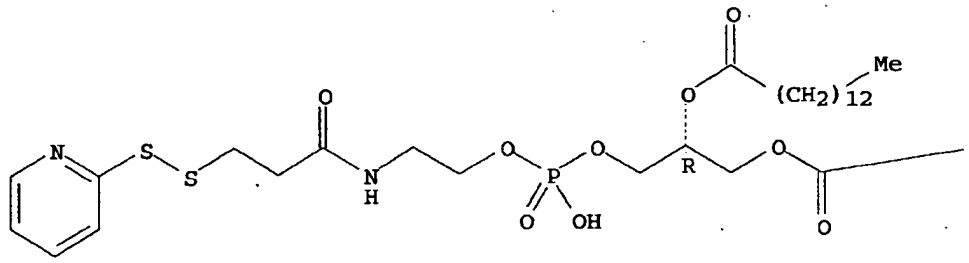
PAGE 1-B



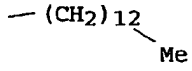
IT **144735-78-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of an exchangeable glycophospholipid and mix-ability with a shorter-chain, phospholipid analog in bilayers)
RN 144735-78-4 HCAPLUS
CN Tetradecanoic acid, (1R)-1-[3-hydroxy-3-oxido-8-oxo-10-(2-pyridinyldithio)-2,4-dioxa-7-aza-3-phosphadec-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

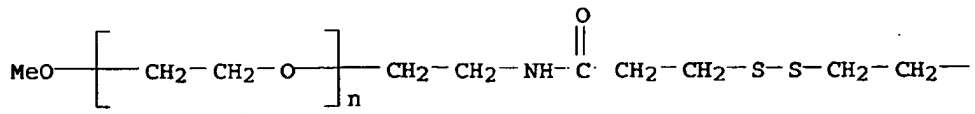
L6 ANSWER 13 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:856893 HCAPLUS
DOCUMENT NUMBER: 137:129662
TITLE: Targeted delivery and triggered release of liposomal doxorubicin enhances cytotoxicity against human B lymphoma cells
AUTHOR(S): Ishida, T.; Kirchmeier, M. J.; Moase, E. H.; Zalipsky, S.; Allen, T. M.
CORPORATE SOURCE: Department of Pharmacology, University of Alberta, Edmonton, AB, T6G 2H7, Can.
SOURCE: Biochimica et Biophysica Acta (2001), 1515(2), 144-158
CODEN: BBACAQ; ISSN: 0006-3002
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Dioleoylphosphatidylethanolamine (DOPE)-contg. liposomes that demonstrated pH-dependent release of their contents were stabilized in the bilayer form through the addn. of a cleavable lipid deriv. of polyethylene glycol (PEG) in which the PEG was attached to a lipid anchor via a disulfide linkage (mPEG-S-S-DSPE). Liposomes stabilized with either a non-cleavable PEG (mPEG-DSPE) or mPEG-S-S-DSPE retained an encapsulated dye at pH 5.5, but treatment at pH 5.5 of liposomes stabilized with mPEG-S-S-DSPE with either dithiothreitol or cell-free exts. caused contents release due to cleavage of the PEG chains and concomitant destabilization of the DOPE liposomes. While formulations loaded with doxorubicin (DXR) were stable in culture media, DXR was rapidly released in human plasma. PH-Sensitive liposomes, targeted to the CD19 epitope on B-lymphoma cells, showed enhanced DXR delivery into the nuclei of the target cells and increased cytotoxicity compared to non-pH-sensitive liposomes. Pharmacokinetic studies suggested that mPEG-S-S-DSPE was rapidly cleaved in circulation. In a murine model of B-cell lymphoma, the therapeutic efficacy of an anti-CD19-targeted pH-sensitive formulation was superior to that of a stable long-circulating formulation of targeted liposomes despite the more rapid drug release and clearance of the pH-sensitive formulation. These results suggest that targeted pH-sensitive formulations of drugs may be able to increase the therapeutic efficacy of entrapped drugs.

IT **444083-98-1**
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(targeted delivery and triggered release of liposomal doxorubicin enhances cytotoxicity against human B lymphoma cells)

RN 444083-98-1 HCAPLUS
CN Poly(oxy-1,2-ethanediyl), .alpha.-(16-hydroxy-16-oxido-4,11,23-trioxo-19-[(1-oxooctadecyl)oxy]-15,17,21-trioxa-7,8-dithia-3,12-diaza-16-phosphanonatriacont-1-yl)-.omega.-methoxy- (9CI) (CA INDEX NAME)

PAGE 1-A



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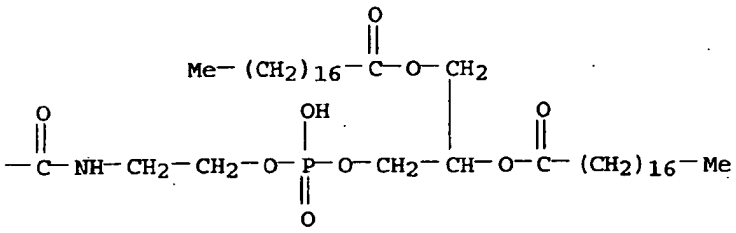
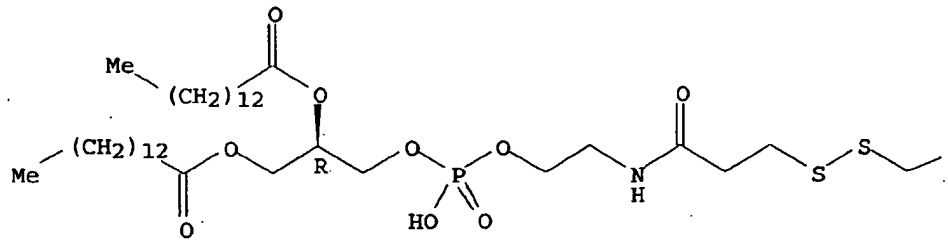


REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

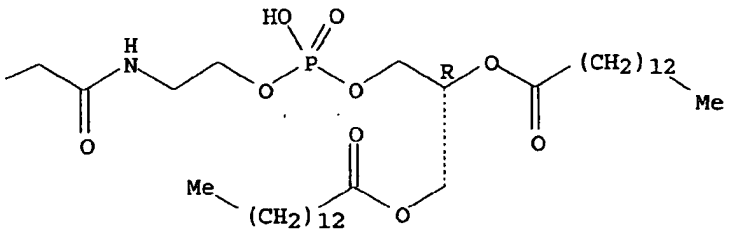
L6 ANSWER 14 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:527773 HCAPLUS
DOCUMENT NUMBER: 135:223161
TITLE: The Structural Role of Cholesterol in Biological Membranes
AUTHOR(S): Sugahara, Michihiro; Uragami, Maki; Yan, Xun; Regen, Steven L.
CORPORATE SOURCE: Department of Chemistry and Zettlemoyer Center for Surface Studies, Lehigh University, Bethlehem, PA, 18015, USA
SOURCE: Journal of the American Chemical Society (2001), 123(32), 7939-7940
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The authors report here membrane organization clarification by the use of NNR. Mechanism by which cholesterol uncoils phospholipid is discussed.
IT **136424-99-2 136425-01-9 136444-35-4**
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(structural role of cholesterol in biol. membranes)
RN 136424-99-2 HCAPLUS
CN Tetradecanoic acid, (2R,25R)-5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



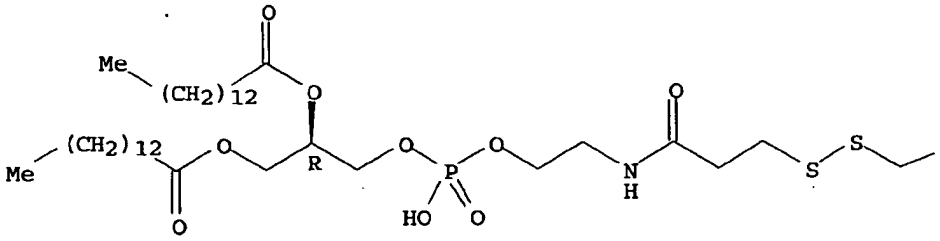
PAGE 1-B



RN 136425-01-9 HCAPLUS
CN Octadecanoic acid, (1R)-1-[(23R)-3,20-dihydroxy-3,20-dioxido-8,15,26-trioxo-23-[(1-oxotetradecyl)oxy]-2,4,19,21,25-pentaoxa-11,12-dithia-7,16-diaza-3,20-diphosphanonatriacont-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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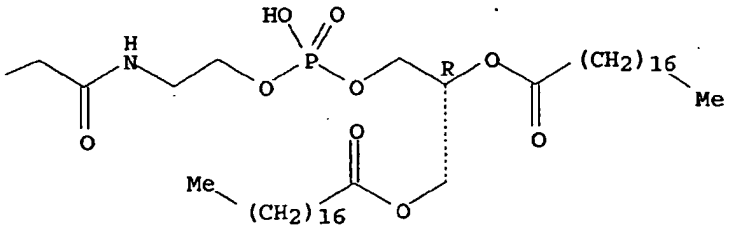
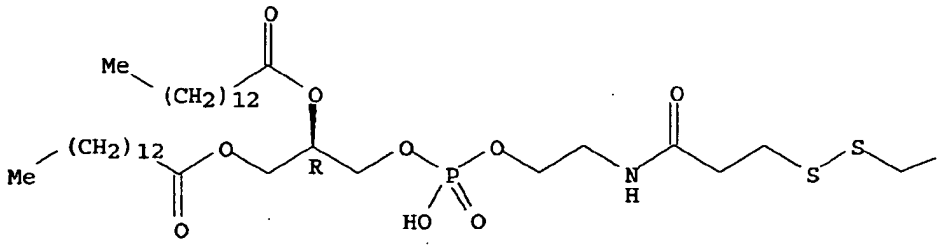


RN 136444-35-4 HCAPLUS
CN Hexadecanoic acid, (1R)-1-[(23R)-3,20-dihydroxy-3,20-dioxido-8,15,26-trioxo-23-[(1-oxotetradecyl)oxy]-2,4,19,21,25-pentaoxa-11,12-dithia-7,16-diaza-3,20-diphosphanonatriacont-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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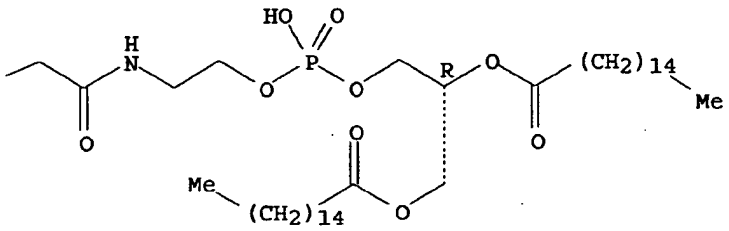


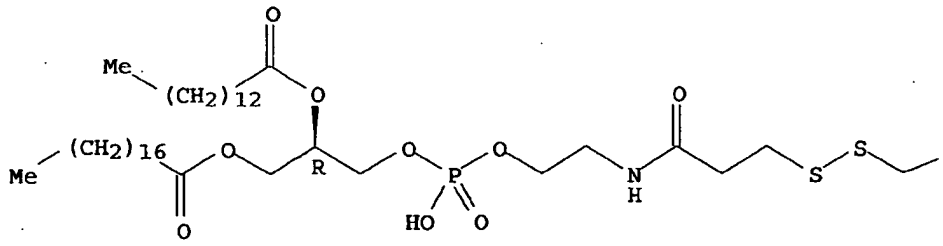
IT **359442-87-8P 359442-88-9P 359442-89-0P**
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(structural role of cholesterol in biol. membranes)

RN 359442-87-8 HCAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (17R)-14-hydroxy-14-oxido-9,20-dioxo-17-[(1-oxotetradecyl)oxy]-13,15,19-trioxa-5,6-dithia-2,10-diaza-14-phosphaheptatriacontanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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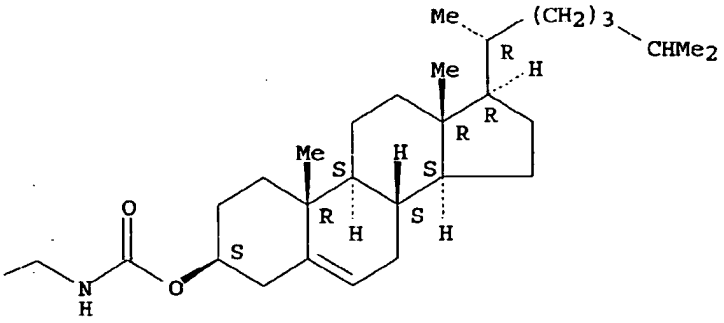
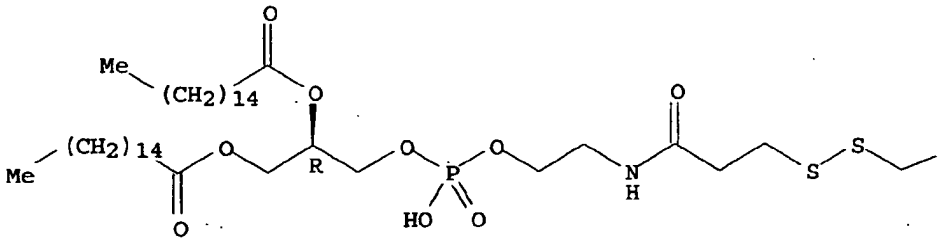


RN 359442-88-9 HCAPLUS
CN Cholest-5-en-3-ol (3.beta.)-, (17R)-14-hydroxy-14-oxido-9,20-dioxo-17-[(1-oxohexadecyl)oxy]-13,15,19-trioxa-5,6-dithia-2,10-diaza-14-phosphapentatriacontanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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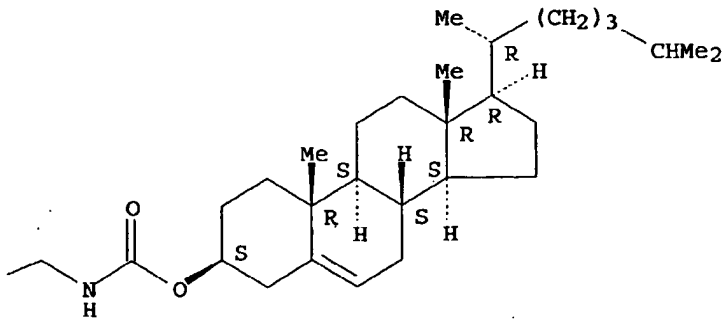
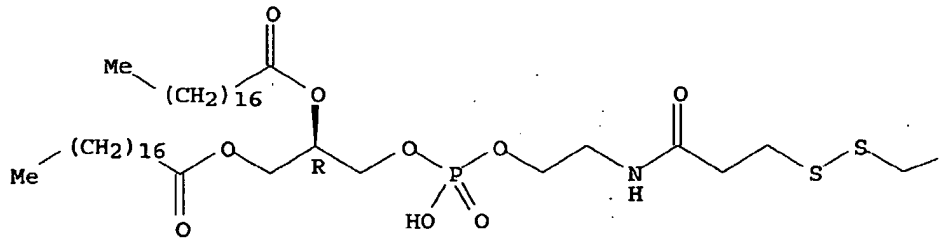


RN 359442-89-0 HCAPLUS

CN Cholest-5-en-3-ol (3.beta.)-, (17R)-14-hydroxy-14-oxido-9,20-dioxo-17-[(1-oxooctadecyl)oxy]-13,15,19-trioxa-5,6-dithia-2,10-diaza-14-phosphaheptatriacontanoate (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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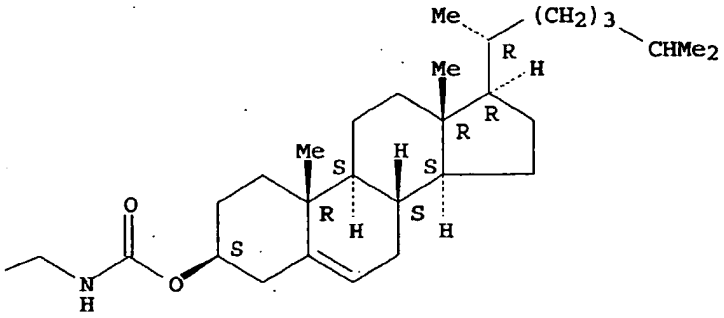

REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 15 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:435642 HCAPLUS
DOCUMENT NUMBER: 135:163885
TITLE: Transmembrane-Peptide-Induced Clustering of Phospholipids
AUTHOR(S): Sugahara, Michihiro; Regen, Steven L.
CORPORATE SOURCE: Department of Chemistry and Zettlemoyer Center for Surface Studies, Lehigh University, Bethlehem, PA, 18015, USA
SOURCE: Langmuir (2001), 17(14), 4413-4415
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Exptl. evidence has been obtained for the transmembrane-peptide-induced

clustering of phospholipids in the fluid bilayer state by use of the nearest-neighbor recognition method. Specifically, the exchangeable phospholipid monomers of 1a and 1b were found to mix, apparently, nonideally and cooperatively in liposomal membranes contg. 9 mol % of the nonchannel form of gramicidin A. Equil. dimer distributions that were measured as a function of the initial ratio of 1a/1b support a model in which discrete clusters are formed that contain two mols. of 1b.

IT **354553-44-9 354553-45-0 354553-46-1**
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(clustering of phospholipids induced by transmembrane peptide)

RN 354553-44-9 HCAPLUS
CN Tetradecanoic acid, 5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

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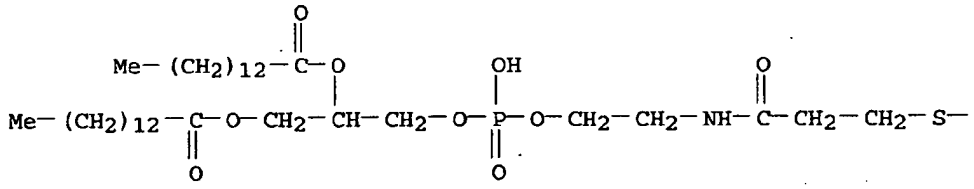
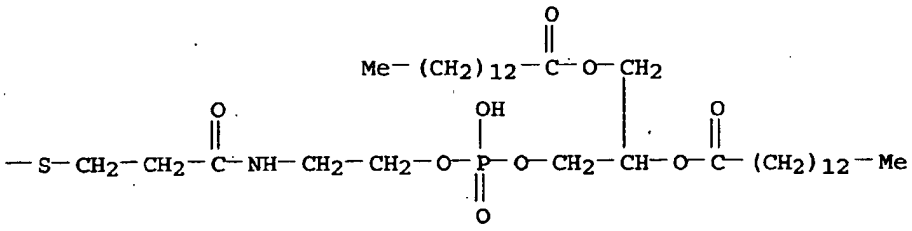


PAGE 1-B



RN 354553-45-0 HCAPLUS
CN Octadecanoic acid, 5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

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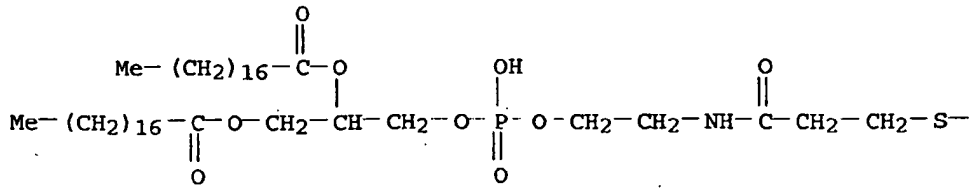

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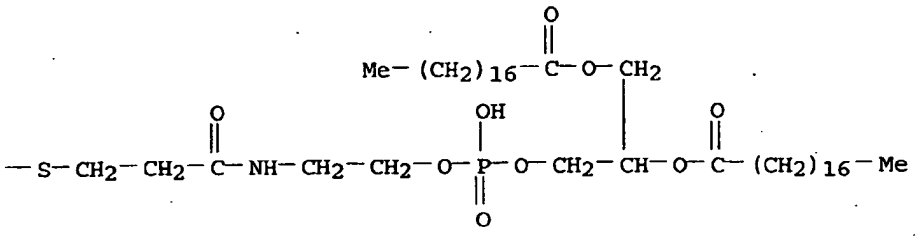
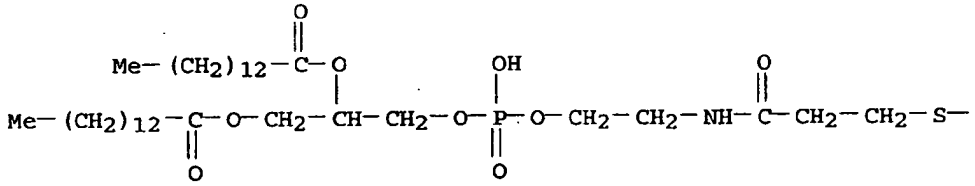
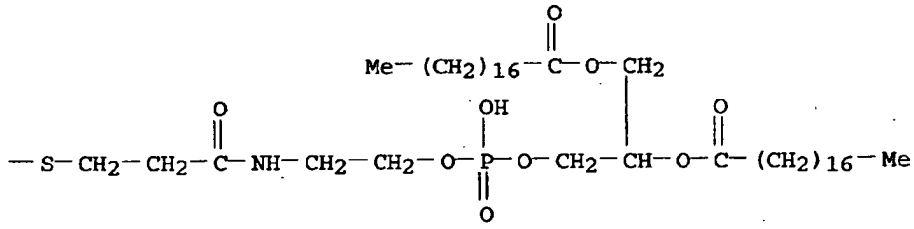


RN 354553-46-1 HCAPLUS
CN Octadecanoic acid, 1-[3,20-dihydroxy-3,20-dioxido-8,15,26-trioxo-23-[(1-oxotetradecyl)oxy]-2,4,19,21,25-pentaoxa-11,12-dithia-7,16-diaza-3,20-diphosphanonatriacont-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 16 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:315844 HCAPLUS
DOCUMENT NUMBER: 135:46370
TITLE: Is the Linkage Region of Sphingolipids Responsible for Lipid Raft Formation?
AUTHOR(S): Uragami, Maki; Tokutake, Nobuya; Yan, Xun; Regen, Steven L.
CORPORATE SOURCE: Department of Chemistry and Zettlemoyer Center for Surface Studies, Lehigh University, Bethlehem, PA, 18015, USA
SOURCE: Journal of the American Chemical Society (2001), 123(21), 5124-5125

CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:46370

AB The first quant. insight into how the linkage region of a sphingolipid and a glycerolipid influences their mixing behavior in the physiol. relevant fluid bilayer state is reported. An exchangeable sphingolipid dimer is synthesized, and it is shown that its monomer units mix, non-ideally, with those of a longer chain glycerolipid. Such sphingolipid-glycerolipid mixing is closer to ideal than analogous glycerolipid-glycerolipid mixing; thus, heterolipid assocns. are favored. However, exptl. data shows that it is highly unlikely that the difference in the linkage region of natural sphingolipids and glycerolipids, by itself, provides a driving force for lipid raft formation in the fluid phase.

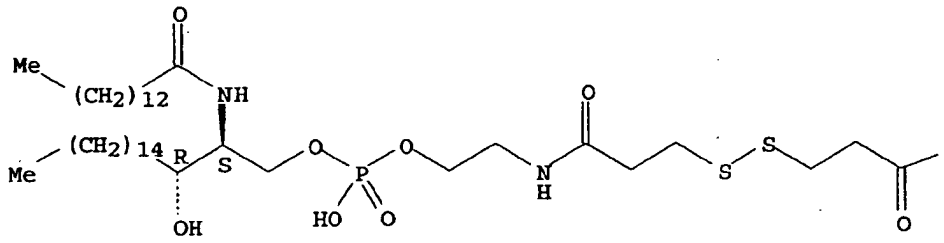
IT **344426-92-2P**
RL: BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(influence of the linkage region of sphingolipids and glycerolipids on lipid raft formation)

RN 344426-92-2 HCAPLUS

CN Octadecanoic acid, 1-[(23S)-3,20-dihydroxy-23-[(1R)-1-hydroxyhexadecyl]-3,20-dioxido-8,15,25-trioxo-2,4,19,21-tetraoxa-11,12-dithia-7,16,24-triaza-3,20-diphosphaoctatriacont-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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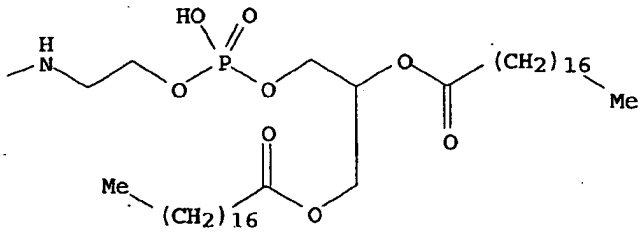


REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 17 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2001:136035 HCAPLUS
DOCUMENT NUMBER: 134:322323
TITLE: The Importance of Acyl Chain Placement on Phospholipid Mixing in the Physiologically Relevant Fluid Phase
AUTHOR(S): Sugahara, Michihiro; Uragami, Maki; Tokutake, Nobuya; Regen, Steven L.
CORPORATE SOURCE: Department of Chemistry and Zettlemoyer Center for Surface Studies, Lehigh University, Bethlehem, PA, 18015, USA
SOURCE: Journal of the American Chemical Society (2001), 123(11), 2697-2698
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 134:322323

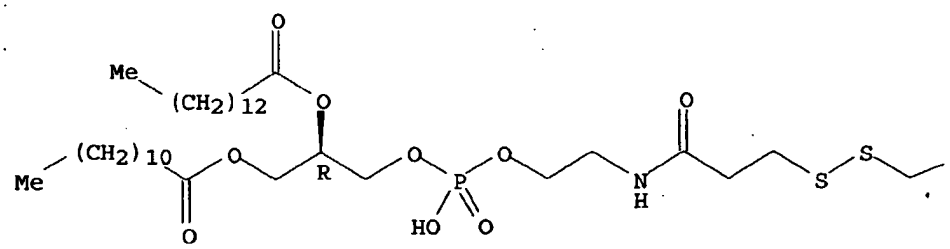
AB Here, the authors show that the mixing behavior of phospholipids bearing two acyl chains that differ in length by two methylene groups, depends on the positioning of the chains. Specifically, they show that the monomer units of 1a and 1b, having their shorter chains attached to the sn-1 position, form nonideal mixts. in cholesterol-rich, fluid bilayers. In sharp contrast, monomers of 2a and 2b, which have their shorter chains attached to the sn-2 position, yield ideal mixts. These findings represent the first exptl. evidence that acyl chain placement can influence the mixing properties of phospholipids in physiol. relevant fluid phase. Moreover, they lend strong support for the putative skewed tuning fork conformation phospholipids.

IT **336111-56-9P 336111-57-0P 336111-58-1P**
**336111-59-2P 336111-60-5P 336111-61-6P**
RL: BSU (Biological study, unclassified); MSC (Miscellaneous); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(prepn. of asym. phospholipids to study the importance of acyl chain placement on phospholipid mixing in the physiol. relevant fluid phase)

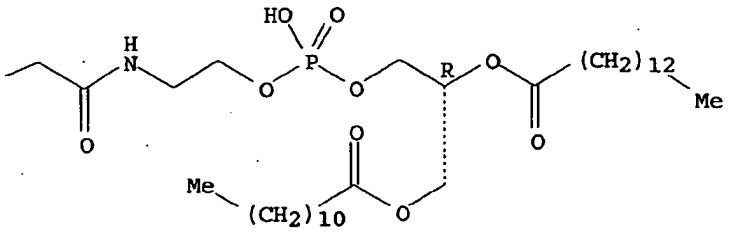
RN 336111-56-9 HCAPLUS
CN Tetradecanoic acid, (1R,24R)-4,21-dihydroxy-4,21-dioxido-9,16-dioxo-1,24-bis[[(1-oxododecyl)oxy]methyl]-3,5,20,22-tetraoxa-12,13-dithia-8,17-diaza-4,21-diphosphatetracosane-1,24-diyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



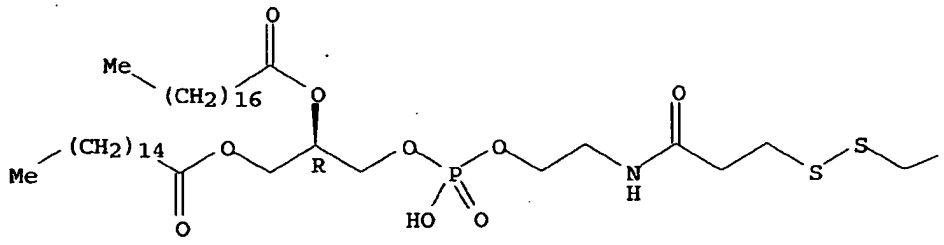
PAGE 1-B



RN 336111-57-0 HCAPLUS
CN Octadecanoic acid, (1R,24R)-4,21-dihydroxy-4,21-dioxido-9,16-dioxo-1,24-bis[[(1-oxohexadecyl)oxy]methyl]-3,5,20,22-tetraoxa-12,13-dithia-8,17-diaza-4,21-diphosphatetracosane-1,24-diyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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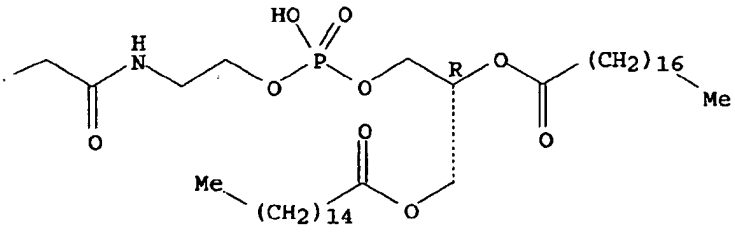
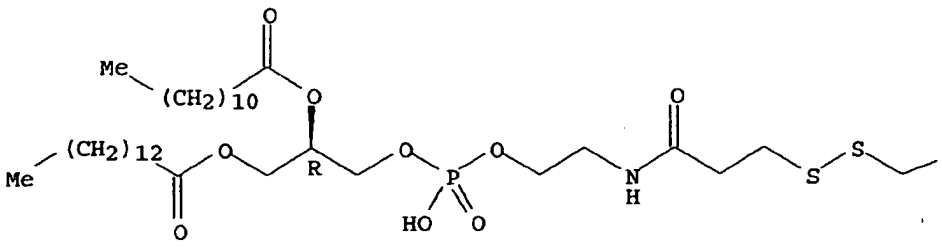


RN 336111-58-1 HCAPLUS
CN Tetradecanoic acid, (2R,25R)-5,22-dihydroxy-5,22-dioxido-10,17-dioxo-2,25-bis[(1-oxododecyl)oxy]-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,26-diyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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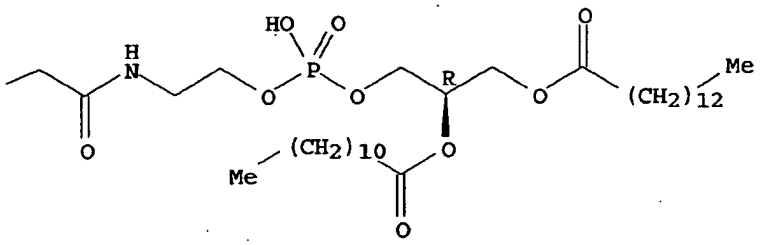
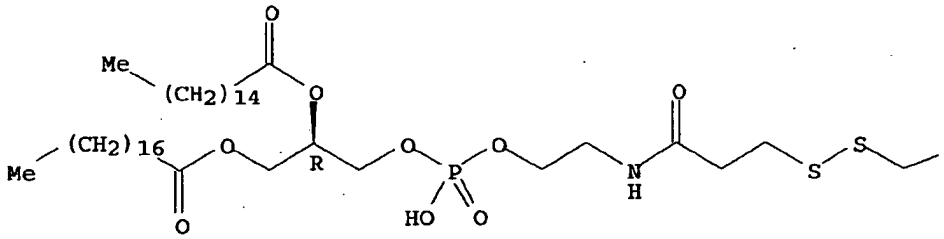


RN 336111-59-2 HCAPLUS
CN Octadecanoic acid, (2R,25R)-5,22-dihydroxy-5,22-dioxido-10,17-dioxo-2,25-bis[(1-oxohexadecyl)oxy]-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,26-diyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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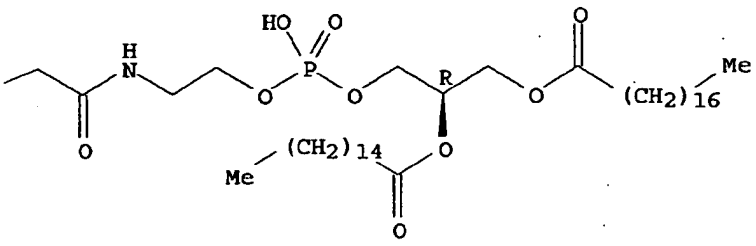
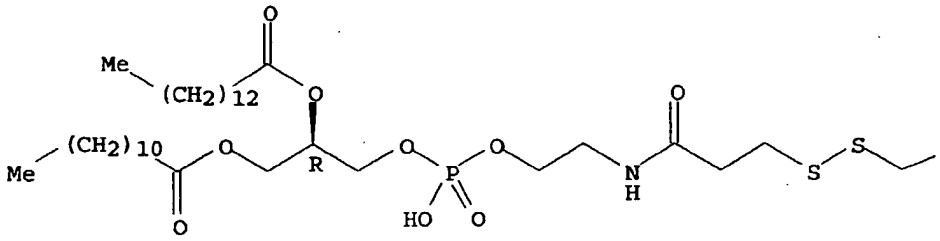


RN 336111-60-5 HCAPLUS
CN Octadecanoic acid, (1R,24R)-4,21-dihydroxy-4,21-dioxido-9,16,26-trioxo-24-[[(1-oxododecyl)oxy]methyl]-1-[[(1-oxohexadecyl)oxy]methyl]-3,5,20,22,25-pentaoxa-12,13-dithia-8,17-diaza-4,21-diphosphanonatriacont-1-yl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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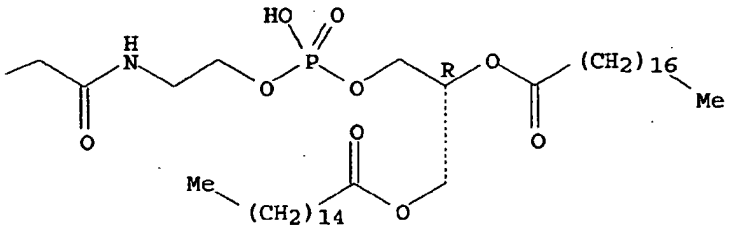
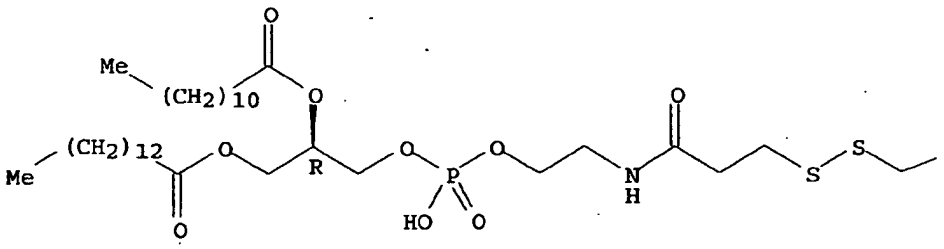


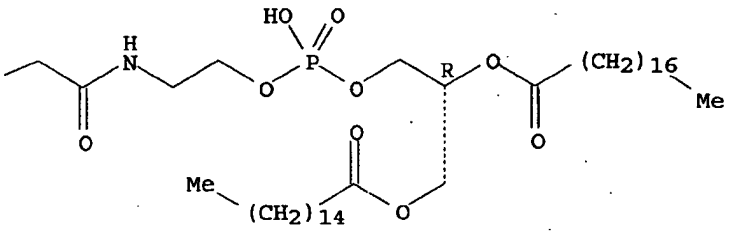
RN 336111-61-6 HCAPLUS
CN Octadecanoic acid, (1R,24R)-4,21-dihydroxy-4,21-dioxido-9,16,27-trioxo-24-[(1-oxododecyl)oxy]-1-[[(1-oxohexadecyl)oxy]methyl]-3,5,20,22,26-pentaoxa-12,13-dithia-8,17-diaza-4,21-diphosphatetracont-1-yl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



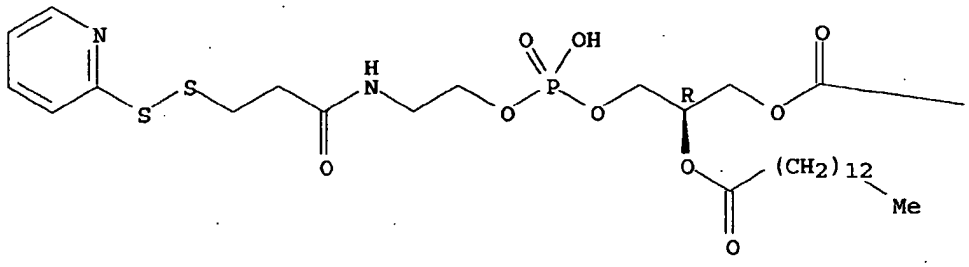
IT **336111-63-8P 336111-64-9P 336111-65-0P**
**336111-66-1P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(prepn. of asym. phospholipids to study the importance of acyl chain placement on phospholipid mixing in the physiol. relevant fluid phase)

RN 336111-63-8 HCAPLUS

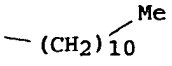
CN Tetradecanoic acid, (1R)-4-hydroxy-4-oxido-9-oxo-1-[[(1-oxododecyl)oxy]methyl]-11-(2-pyridinyldithio)-3,5-dioxa-8-aza-4-phosphaundec-1-yl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



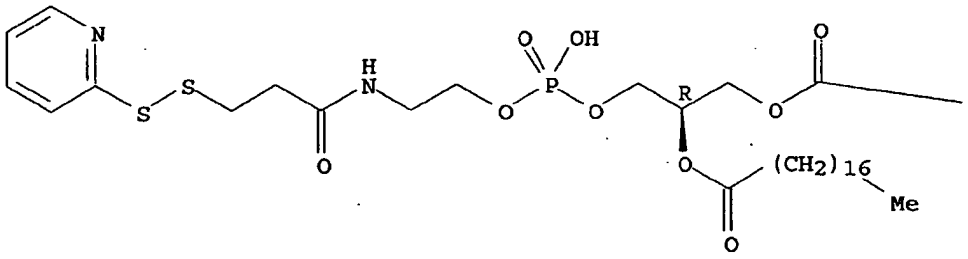
PAGE 1-B



RN 336111-64-9 HCAPLUS
CN Octadecanoic acid, (1R)-4-hydroxy-4-oxido-9-oxo-1-[[(1-oxohexadecyl)oxy]methyl]-11-(2-pyridinyldithio)-3,5-dioxa-8-aza-4-phosphaundec-1-yl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



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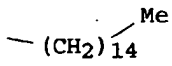
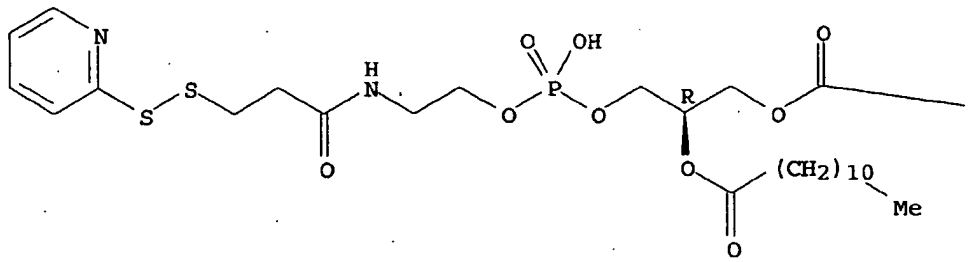


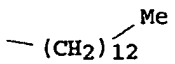
RN 336111-65-0 HCAPLUS
CN Tetradecanoic acid, (2R)-5-hydroxy-5-oxido-10-oxo-2-[(1-oxododecyl)oxy]-12-(2-pyridinyldithio)-4,6-dioxa-9-aza-5-phosphadodec-1-yl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



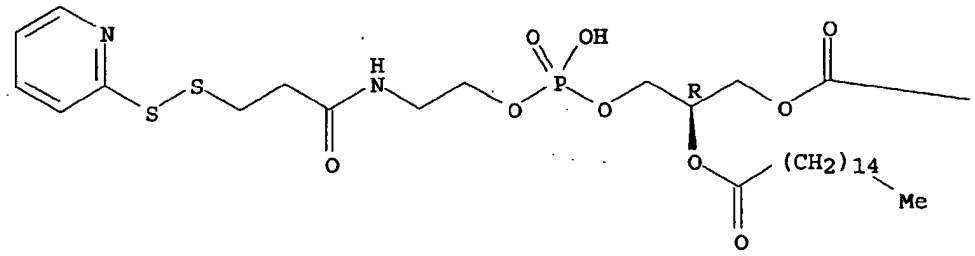
PAGE 1-B



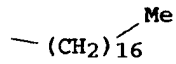
RN 336111-66-1 HCAPLUS
CN Octadecanoic acid, (2R)-5-hydroxy-5-oxido-10-oxo-2-[(1-oxohexadecyl)oxy]-12-(2-pyridinyldithio)-4,6-dioxa-9-aza-5-phosphadodec-1-yl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 24 THERE ARE 24 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 18 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:271200 HCAPLUS
DOCUMENT NUMBER: 133:71068
TITLE: The use of liposomes to study COPII- and COPI-coated vesicle formation and membrane protein sorting
AUTHOR(S): Matsuoka, Ken; Schekman, Randy
CORPORATE SOURCE: Department of Molecular and Cell Biology and Howerd Hughes Medical Institute, University of California, Berkeley, Berkeley, CA, 94706, USA
SOURCE: Methods (Orlando, Florida) (2000), 20(4), 417-428
CODEN: MTHDE9; ISSN: 1046-2023
PUBLISHER: Academic Press
DOCUMENT TYPE: Journal
LANGUAGE: English
AB We have established systems that reconstitute the biogenesis of coated transport vesicles with liposomes made of pure lipids and purified coat

proteins. Optimization of the lipid compn. in the liposomes allowed the efficient binding of both coat protein I and coat protein II (COPII) coat subunits. Coated vesicles of approx. the size generated from biomembranes were detected and characterized by centrifugation anal. and electron microscopy. A variation of this budding reaction allowed us to measure the sorting of v-SNARE proteins into synthetic COPII vesicles. We developed a novel system to tether glutathione S-transferase (GST)-hybrid proteins to the surface of liposomes formulated with a glutathione-derivatized phospholipid. This system allowed us to detect the pos. role of cytoplasmic domains of two v-SNARE proteins that are packaged into COPII vesicles. Therefore, both generation of coated vesicles and protein sorting into the vesicles can be reproduced with liposomes and purified proteins. (c) 2000 Academic Press.

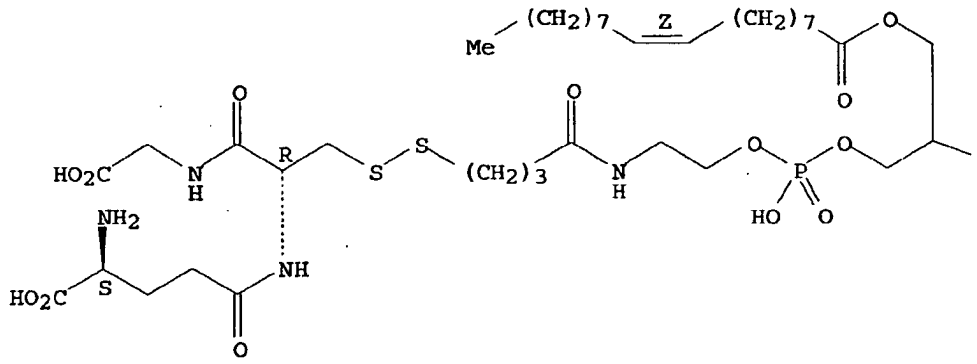
IT **278781-03-6P**
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(use of liposomes to study COPII- and COPI-coated vesicle formation and membrane protein sorting)

RN 278781-03-6 HCAPLUS

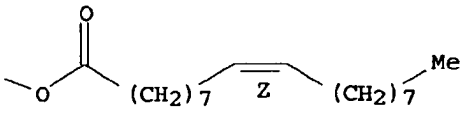
CN Glycine, L-.gamma.-glutamyl-3-[[(23Z)-9-hydroxy-9-oxido-4,15-dioxo-12-[[(9Z)-1-oxo-9-octadecenyl]oxy]-8,10,14-trioxa-5-aza-9-phosphadotriacont-23-en-1-yl]dithio]-L-alanyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry as shown.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 19 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2000:150062 HCAPLUS

DOCUMENT NUMBER: 132:344654
TITLE: Types of Lipid Clustering in Phospholipid Membranes as Classified by Nearest-Neighbor Recognition Analysis
AUTHOR(S): Dewa, Takehisa; Miyake, Yasuhito; Kezdy, Ferenc J.; Regen, Steven L.
CORPORATE SOURCE: Department of Chemistry and Zettlemoyer Center for Surface Studies, Lehigh University, Bethlehem, PA, 18015, USA
SOURCE: Langmuir (2000), 16(8), 3735-3739
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

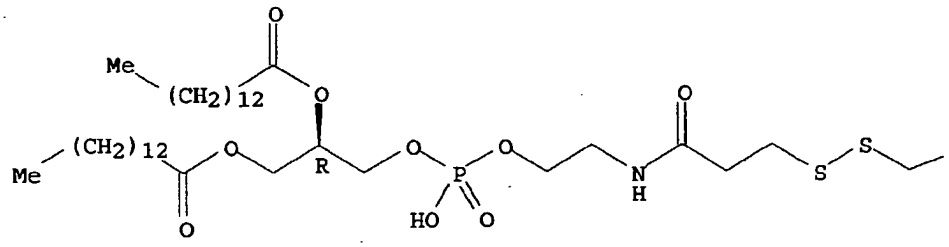
AB The nearest-neighbor recognition method is applied to the problem of phospholipid clustering in bilayers composed of di[1,2-dimyristoyl-sn-glycero-3-phosphoethanol(3'-thio)propionamide] [I], di[1,2-distearoyl-sn-glycero-3-phosphoethanol(3'-thio)propionamide] [II], and 1,2-dimyristoyl-sn-glycero-3-phosphoethanol(3'-thio)propionamide-1,2-distearoyl-sn-glycero-3-phosphoethanol(3'-thio)propionamide [III]. The value and the compn. dependency of the apparent equil. const., K, defined by the equil. concns. of homodimers (I and II) and the corresponding heterodimer (III), allow one to distinguish among three fundamentally different classes of clustering: (i) random clustering, (ii) cooperative clustering, and (iii) nonrandom-noncooperative clustering. Exptl. results indicate that random clustering of these phospholipids is pervasive in fluid bilayers, whereas cooperative clustering exists in the gel-fluid coexistence region. In the physiol. relevant fluid phase, these same lipids give rise to nonrandom-noncooperative clustering when cholesterol has been included in the bilayer.

IT **136424-99-2 136425-00-8 136425-01-9**
RL: BPR (Biological process); BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process)
(types of lipid clustering in phospholipid membranes as classified by nearest-neighbor recognition anal.)

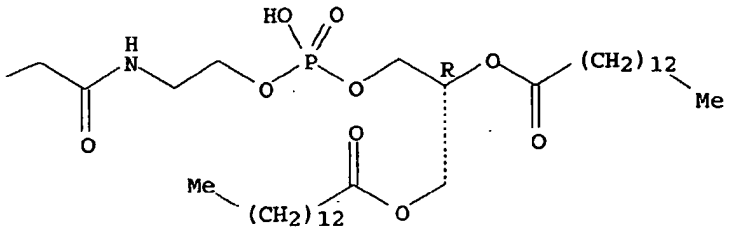
RN 136424-99-2 HCAPLUS
CN Tetradecanoic acid, (2R,25R)-5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



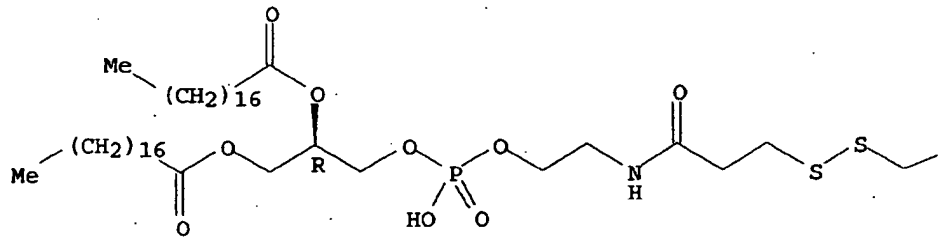
PAGE 1-B



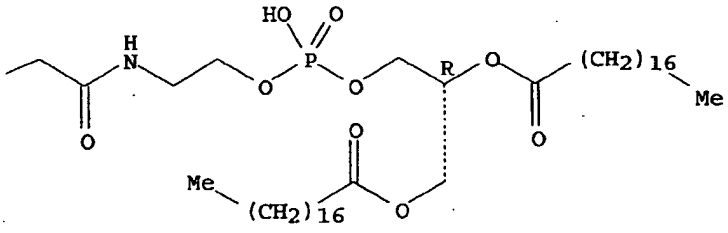
RN 136425-00-8 HCAPLUS
CN Octadecanoic acid, (2R,25R)-5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



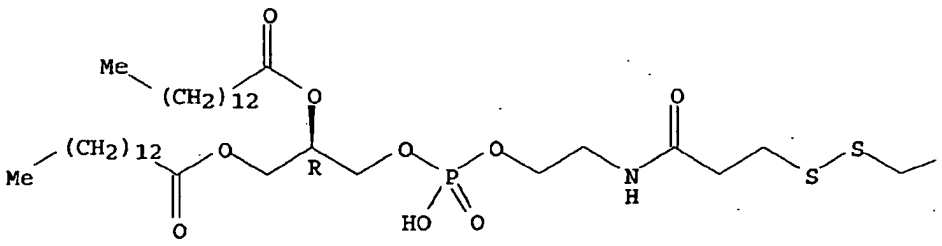
PAGE 1-B



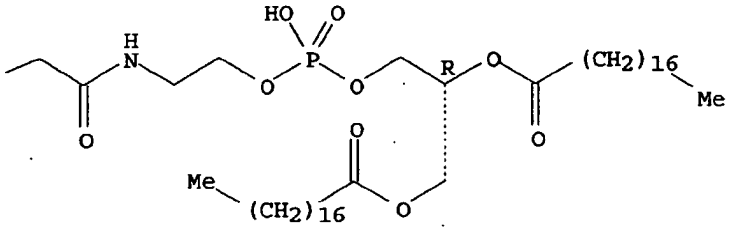
RN 136425-01-9 HCAPLUS
CN Octadecanoic acid, (1R)-1-[(23R)-3,20-dihydroxy-3,20-dioxido-8,15,26-trioxo-23-[(1-oxotetradecyl)oxy]-2,4,19,21,25-pentaoxa-11,12-dithia-7,16-diaza-3,20-diphosphanonatriacont-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B



REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 20 OF 58 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1999:564121 HCAPLUS
DOCUMENT NUMBER: 132:20193
TITLE: Bridging Group Effects on Nearest-Neighbor Recognition within Fluid Phospholipid Membranes
AUTHOR(S): Tokutake, Nobuya; Miyake, Yasuhito; Regen, Steven L.
CORPORATE SOURCE: Department of Chemistry and Zettlemoyer Center for Surface Studies, Lehigh University, Bethlehem, PA, 18015, USA
SOURCE: Langmuir (2000), 16(1), 81-86
CODEN: LANGD5; ISSN: 0743-7463
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The effects that the bridging group has on nearest-neighbor recognition (NNR) in phospholipid membranes (i.e., the thermodn. preference for homodimer formation) have been examd. using a homologous series of dimers derived from 1,2-dimyristoyl-sn-glycero-3-phosphoethanolamine (DMPE) and 1,2-distearoyl-sn-glycero-3-phosphoethanolamine (DSPE). When 3,3'-dithiodipropionyl (DTDP) was used as the exchangeable bridge, a statistical mixt. of dimers was formed. In contrast, the use of a bridge that contained two addnl. methylene units resulted in a significant level of NNR; further extension of the bridge by two methylene units produced an addnl. increase in NNR. While cholesterol was found to induce significant NNR in bilayers made from lipid dimers having the DTDP moiety, its effect in membranes having longer bridging units was negligible. A simple model that accounts for these observations is presented, which is based on geometric and packing considerations. Exptl. evidence in support of this

model has been obtained from relative differences in the gel to liq.-cryst. phase transition temps. and also from relative differences in fluorescence depolarization of 1,6-diphenyl-1,3,5-hexatriene (DPH), which have been measured in lipid membranes contg. "short" and "long" bridges. Tighter packing in bilayers derived from phospholipid dimers having the DTDP bridge, together with the absence of nearest-neighbor recognition, points toward more cylindrically shaped phospholipids, and ones that are well-suited for model membrane studies. Possible biol. implications of these findings are also briefly discussed.

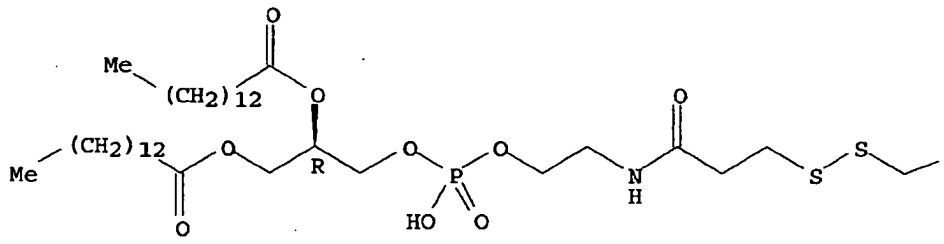
IT **136424-99-2P 136425-00-8P 136425-01-9P**
**250266-73-0P 250266-74-1P 250266-75-2P**
**250266-76-3P 250266-77-4P 250266-78-5P**
RL: BSU (Biological study, unclassified); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process)
(synthetic phosphatidylethanolamine dimer; bridging group effects on nearest-neighbor recognition within fluid phospholipid membranes)

RN 136424-99-2 HCAPLUS

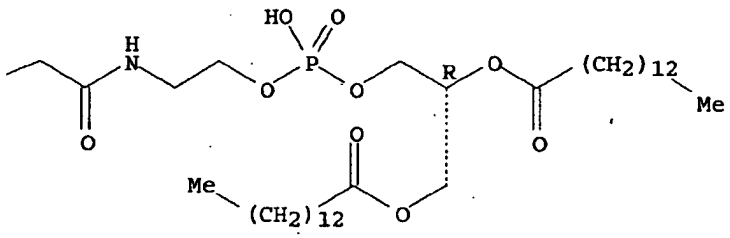
CN Tetradecanoic acid, (2R,25R)-5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

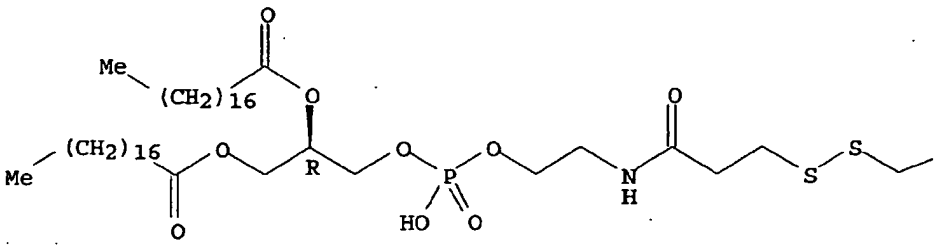


RN 136425-00-8 HCAPLUS

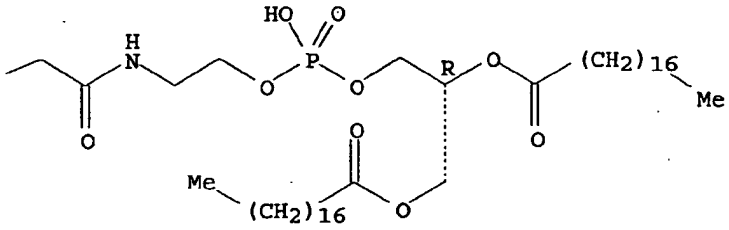
CN Octadecanoic acid, (2R,25R)-5,22-dihydroxy-5,22-dioxido-10,17-dioxo-4,6,21,23-tetraoxa-13,14-dithia-9,18-diaza-5,22-diphosphahexacosane-1,2,25,26-tetrayl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



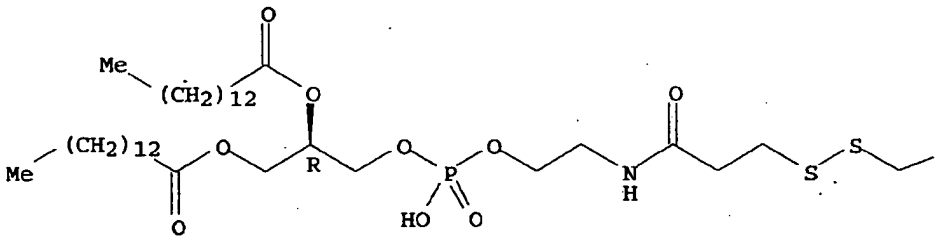
PAGE 1-B



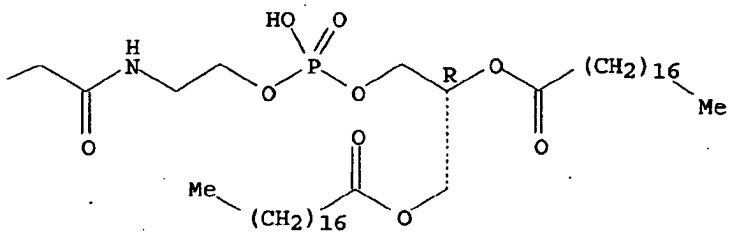
RN 136425-01-9 HCAPLUS
CN Octadecanoic acid, (1R)-1-[(23R)-3,20-dihydroxy-3,20-dioxido-8,15,26-trioxo-23-[(1-oxotetradecyl)oxy]-2,4,19,21,25-pentaoxa-11,12-dithia-7,16-diaza-3,20-diphosphanonatriacont-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



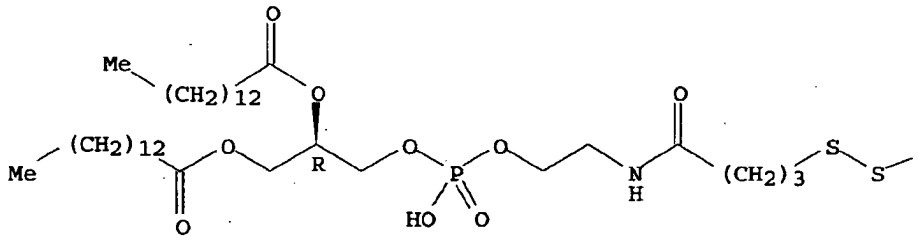
PAGE 1-B



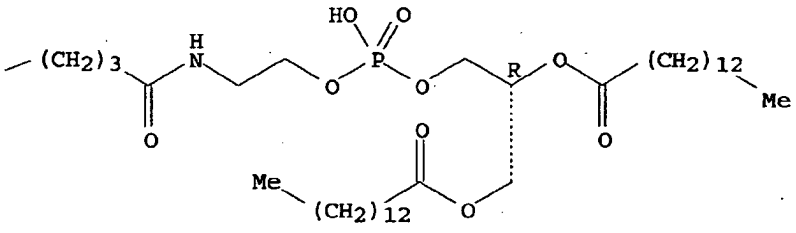
RN 250266-73-0 HCAPLUS
CN Tetradecanoic acid, (2R,27R)-5,24-dihydroxy-5,24-dioxido-10,19-dioxo-4,6,23,25-tetraoxa-14,15-dithia-9,20-diaza-5,24-diphosphaoctacosane-1,2,27,28-tetrayl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



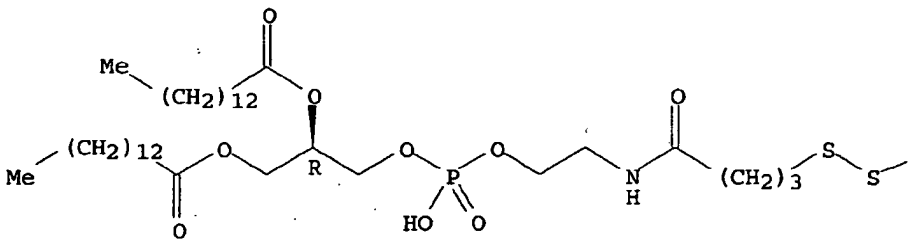
PAGE 1-B



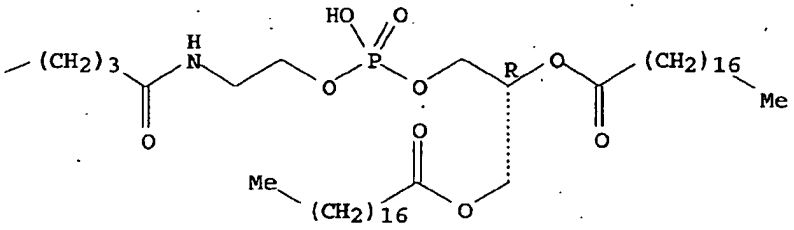
RN 250266-74-1 HCAPLUS
CN Octadecanoic acid, (1R)-1-[(25R)-3,22-dihydroxy-3,22-dioxido-8,17,28-trioxo-25-[(1-oxotetradecyl)oxy]-2,4,21,23,27-pentaoxa-12,13-dithia-7,18-diaza-3,22-diphosphahentetracont-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



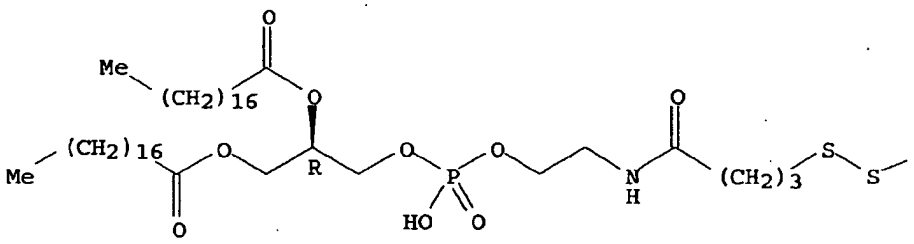
PAGE 1-B



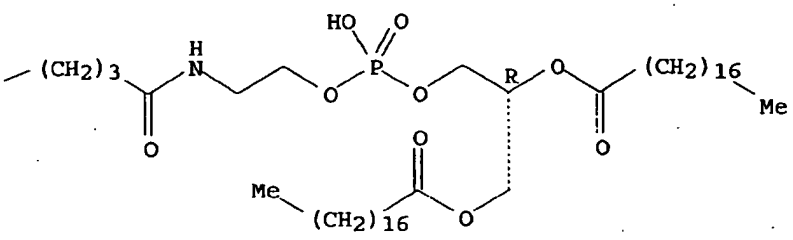
RN 250266-75-2 HCAPLUS
CN Octadecanoic acid, (2R,27R)-5,24-dihydroxy-5,24-dioxido-10,19-dioxo-4,6,23,25-tetraoxa-14,15-dithia-9,20-diaza-5,24-diphosphaoctacosane-1,2,27,28-tetrayl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



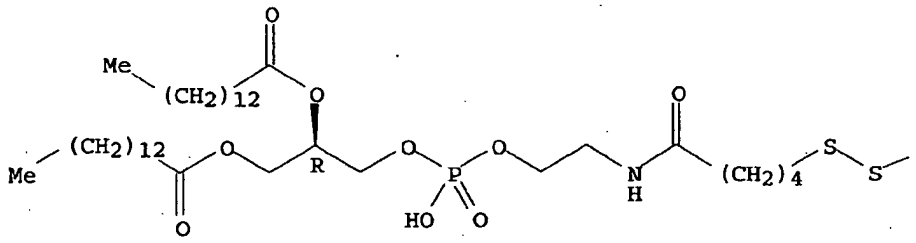
PAGE 1-B



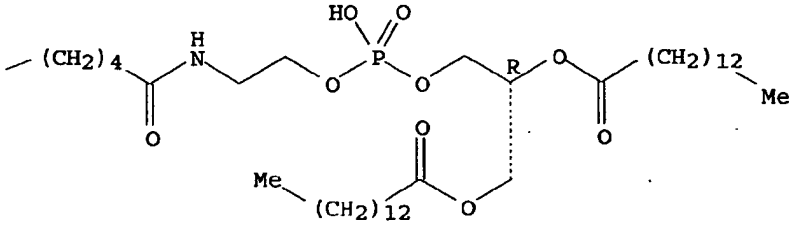
RN 250266-76-3 HCAPLUS
CN Tetradecanoic acid, (2R,29R)-5,26-dihydroxy-5,26-dioxido-10,21-dioxo-4,6,25,27-tetraoxa-15,16-dithia-9,22-diaza-5,26-diphosphatriacontane-1,2,29,30-tetrayl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



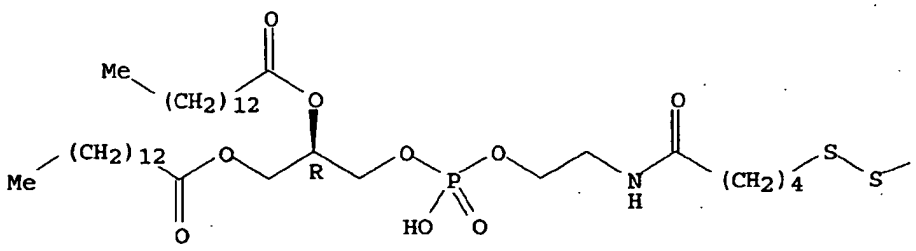
PAGE 1-B



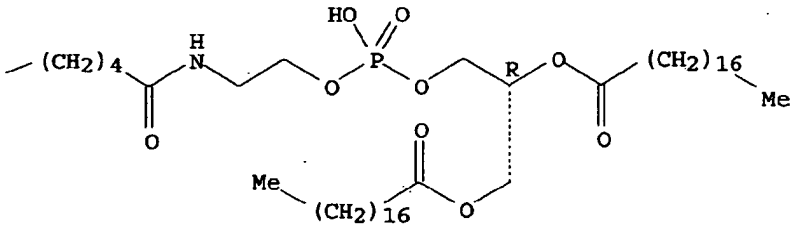
RN 250266-77-4 HCAPLUS
CN Octadecanoic acid, (1R)-1-[(27R)-3,24-dihydroxy-3,24-dioxido-8,19,30-trioxo-27-[(1-oxotetradecyl)oxy]-2,4,23,25,29-pentaoxa-13,14-dithia-7,20-diaza-3,24-diphosphatritetracont-1-yl]-1,2-ethanediyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



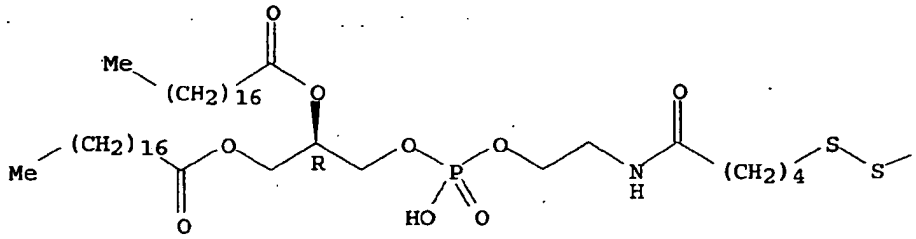
PAGE 1-B



RN 250266-78-5 HCAPLUS
CN Octadecanoic acid, (2R,29R)-5,26-dihydroxy-5,26-dioxido-10,21-dioxo-4,6,25,27-tetraoxa-15,16-dithia-9,22-diaza-5,26-diphosphatriacontane-1,2,29,30-tetrayl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



Inventor Search



L19 ANSWER 1 OF 1 HCAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2002:157147 HCAPLUS
DOCUMENT NUMBER: 136:178963
TITLE: Composition for **DNA** transfection
INVENTOR(S): **Schlaeger, Ernst-juergen; Kitas, Eric Agirios**
PATENT ASSIGNEE(S): Roche Diagnostics Gmbh, Germany; F. Hoffmann-La Roche A.-G.
SOURCE: Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|---|---|---|---|
| EP 1182208 | A2 | 20020227 | EP 2001-117620 | 20010724 |
| EP 1182208 | A3 | 20020508 | | |

R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO

PRIORITY APPLN. INFO.: US 2000-222095P P 20000728
US 2000-712526 A 20001114
OTHER SOURCE(S): MARPAT 136:178963

AB A novel transfection reagent is disclosed comprising a conjugate of a lipid and a basic membrane disturbing peptide of the formula wherein R1 and R2 are selected from the group consisting of hydrocarbyl moieties of straight-chain or branched-chain, satd. or unsatd. aliph. carboxylic acids and phospholipid moieties, R#3 is a basic, membrane-disturbing peptide with a reversed amide backbone, Y is a C2-10 alkylene, and X is selected from the group consisting of C(O)NH, and salts thereof. Particularly preferred compds. are those wherein R1 and R2 independently are an acyl moiety of a C12-20 carboxylic acid, esp. wherein R1 and R2 are oleoyl. Further disclosed is a transfection method in which transfection efficiency and DNA complex formation are enhanced by the use of a compd. of the invention in conjunction with an amino acid conc. in the form of a protein hydrolyzate.

IC ICM C07K014-00
ICS A61K047-48; A61K009-127; C12N015-87
CC 3-1 (Biochemical Genetics)
ST DNA transfection reagent lipid conjugate
IT Macromolecular compounds
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(anionic; compn. for DNA transfection)
IT DNA
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(complexes; compn. for DNA transfection)
IT Anions
Eukaryota
Transformation, genetic
(compn. for DNA transfection)
IT Phospholipids, biological studies
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(compn. for DNA transfection)
IT Carboxylic acids, biological studies

DNA
Polynucleotides
Protein hydrolyzates
Proteins
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(compn. for DNA transfection)

IT Phospholipids, biological studies
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(conjugates; compn. for DNA transfection)

IT Lipids, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(helper; compn. for DNA transfection)

IT Caseins, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(hydrolyzates; compn. for DNA transfection)

IT Peptides, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(membrane disturbing; compn. for DNA transfection)

IT Cations
(polycation; compn. for DNA transfection)

IT Polymers, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(polycationic; compn. for DNA transfection)

IT Reagents
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(transfection; compn. for DNA transfection)

IT Meat
(tryptic digest; compn. for DNA transfection)

IT Amino acids, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(D-; compn. for DNA transfection)

IT **245410-50-8**
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(compn. for DNA transfection)

IT **57-10-3**, Palmitic acid, biological studies **57-11-4**, Stearic acid, biological studies **74-85-1**, Ethylene, biological studies **112-80-1**, Oleic acid, biological studies **115-07-1**, Propylene, biological studies **143-07-7**, Lauric acid, biological studies **9002-07-7**, Trypsin **16734-12-6**, Disulfide **25838-60-2**, Decamethylene **26913-06-4**, Poly[imino(1,2-ethanediyl)]
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(compn. for DNA transfection)

IT **17655-31-1**, Amide
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(reverse, back bone; compn. for DNA transfection)

IT **245410-50-8**
RL: ARG (Analytical reagent use); BSU (Biological study, unclassified); PRP (Properties); ANST (Analytical study); BIOL (Biological study); USES (Uses)
(compn. for DNA transfection)

RN 245410-50-8 HCAPLUS

CN enantio-retro-Melittin (honeybee), 26-[3-[[(11S,22Z)-8-hydroxy-8-oxido-3,14-dioxo-11-[[(9Z)-1-oxo-9-octadecenyl]oxy]-7,9,13-trioxa-4-aza-8-phosphahentriacont-22-en-1-yl]dithio]-D-alaninamide]- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT **57-10-3**, Palmitic acid, biological studies **57-11-4**, Stearic acid, biological studies **74-85-1**, Ethylene, biological studies **112-80-1**, Oleic acid, biological studies **115-07-1**, Propylene, biological studies **143-07-7**, Lauric acid, biological studies **9002-07-7**, Trypsin **16734-12-6**, Disulfide **25838-60-2**, Decamethylene **26913-06-4**, Poly[imino(1,2-ethanediyl)]
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(compn. for DNA transfection)

RN 57-10-3 HCAPLUS
CN Hexadecanoic acid (9CI) (CA INDEX NAME)

$HO_2C-(CH_2)_{14}-Me$

RN 57-11-4 HCAPLUS
CN Octadecanoic acid (9CI) (CA INDEX NAME)

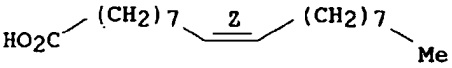
$HO_2C-(CH_2)_{16}-Me$

RN 74-85-1 HCAPLUS
CN Ethene (9CI) (CA INDEX NAME)

$H_2C=CH_2$

RN 112-80-1 HCAPLUS
CN 9-Octadecenoic acid (9Z)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.




RN 115-07-1 HCAPLUS
CN 1-Propene (9CI) (CA INDEX NAME)

$H_3C-CH=CH_2$

RN 143-07-7 HCAPLUS
CN Dodecanoic acid (9CI) (CA INDEX NAME)

$HO_2C-(CH_2)_{10}-Me$

RN 9002-07-7 HCAPLUS
CN Trypsin (8CI, 9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 16734-12-6 HCAPLUS
CN Sulfide (S22-) (8CI, 9CI) (CA INDEX NAME)

$^{-}S-S^{-}$

RN 25838-60-2 HCAPLUS
CN 1,10-Decanediyl (9CI) (CA INDEX NAME)

$H_2C-(CH_2)_8-CH_2$

RN 26913-06-4 HCAPLUS
CN Poly[imino(1,2-ethanediyl)] (9CI) (CA INDEX NAME)

$$\left[ \text{———}CH_2-CH_2-NH\text{———} \right]_n$$

IT **17655-31-1**, Amide
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(reverse, back bone; compn. for DNA transfection)
RN 17655-31-1 HCAPLUS
CN Amide (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

$NH_2^{-}$